

DOCUMENT RESUME

ED 190 224

PS 011 568

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TITLE A Study of the Effectiveness of Full-Day Kindergarten.
INSTITUTION Evansville-Vanderburgh School Corp., Ind.
PUB DATE 80
NOTE 114p.
EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS Comparative Analysis: *Extended School Day; Interviews: *Kindergarten; *Kindergarten Children; Observation: Parent Attitudes: *Program Effectiveness: Questionnaires: Teacher Attitudes: *Time Factors (Learning)

ABSTRACT

The major purpose of this study was to present some findings relative to the benefits and the effectiveness of total learning in a full-day-kindergarten program as compared to the traditional half-day kindergarten program. To do this the Evansville-Vanderburgh School Corporation of Indiana, implemented and conducted a full-day kindergarten pilot program during the second semester of the 1978/1979 school year. The program was continued during the full 1979/1980 school year. Full-day kindergarten children in four pilot schools (experimental group) and a random sampling of half-day kindergarten children (control group) from schools containing the half-day kindergarten session participated in the study. It was hypothesized that children who attended a full-day kindergarten program would show greater growth in cognitive, psychomotor, affective, and linguistic skills than those children who attended the half-day kindergarten program. To test this hypothesis each child from both groups was administered three evaluation instruments. These were the California Achievement Tests, the Boehm Tests of Basic Concepts, and the Gates-MacGinitie Reading Tests. Personal interviews, questionnaires, and observations were used to collect additional information from teachers and parents. In general, results revealed that full-day kindergarten students scored significantly higher in the above three tests; that most parents (91.6%) of children who attended full-day kindergarten prefer full-day kindergarten; and that full-day kindergarten teachers have a favorable attitude about full-day kindergarten while first grade teachers are undecided about full-day classes. (Author/MP)

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A STUDY OF THE EFFECTIVENESS
of
FULL-DAY KINDERGARTEN

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ACKNOWLEDGMENTS

Appreciation is extended to the Board of School Trustees for their permission to pilot the full-day kindergarten project. This study is the result of the Board's request for an in-depth analysis of the full-day kindergarten program.

The full-day kindergarten experiment involved many people. Research as extensive as presented in this report called for a team effort. The team was composed of five kindergarten teachers, four principals, a consultant, an artist, two teachers from the Reading Center, four secretaries, and the Director of Elementary Education. All of the team members worked cooperatively to provide both a beneficial experience for the children and a professional report concerning the merits of full-day kindergarten.

The full-day kindergarten teachers and their principals devoted much time and effort in this experimental program in which the Corporation had no previous experience. Grateful acknowledgment is given to Sharon Deutsch, Debra Virgin, and William Hendrickson of Glenwood School; Martha Rohlfer and Linda Danheiser of Stockwell School; Barbara Marr and Norbert Woolley of Tekoppel School; Cuba Little and Robert Ahrens of Thompkins School; and the kindergarten aides, school secretaries, and other members of the staff of each school.

Dr. Ralph Templeton of the University of Evansville served as a consultant for the research design and interpretation of the data.

Special gratitude is due Velinda Blackman of the Reading Center for gathering related research, for Harry Friley for art work, and for Mary Chandler. Mrs. Chandler shared with the team valuable information based on her practical experience as a full-day kindergarten teacher in Indianapolis. Her writing skills, ability to work with people, and dedication to the project beyond the call of duty were key to the successful completion of the report.

Four secretaries who typed the report deserve special recognition since the typing of the report was in addition to the end of school work load. Diana Alvey, Bonnie Aramowicz, Sandy Flick, and Thelma Schuble were all cooperative and competent in their work with the project.

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CHAPTER I

INTRODUCTION

Kindergarten is a very important and influential year in a young child's life. The foundation for the child's formal education is built, and work habits and attitudes develop that will set the stage for a successful school experience and make possible the fullest extension of a child's total learning ability.

Therefore, concerned educators must constantly reevaluate and change kindergarten programs to meet the individual differences and needs of children in our ever changing society. Today's children with nursery school, Head Start, television viewing, and a large variety of learning experiences seem to be ready for more than the informal learning approach which emphasizes the affective and linguistic development. More and more kindergartens are adding formal experiences with structured lessons in the readiness skills for reading, writing, and mathematics.

The best aspects of both approaches, formal and informal, are necessary to meet the needs of today's kindergarten child. "The child needs a synthesis of the skill instruction that has been proven to contribute to cognitive and psychomotor growth, and the unstructured interaction whose end product is affective and linguistic competence."¹

As educators expand the kindergarten curriculum to include both approaches, they are finding that perhaps the traditional half-day session no longer provides enough time for the kindergarten curriculum they would like to offer. To provide the time that is necessary, more

¹Walter B. Barbe, Michael N. Milone, Virginia H. Lucas, and Jack W. Humphrey, Basic Skills in Kindergarten: Foundations for Formal Learning, (Columbus: Zaner-Bloser, Inc., 1980), p. 17.

and more educators are investigating extended-day or full-day kindergarten programs.

To evaluate the benefits and effectiveness of a full-day kindergarten program, the Evansville-Vanderburgh School Corporation implemented and conducted a full-day kindergarten pilot program during the second semester of the 1978/1979 school year with a continuation during the full 1979/1980 school year.

Background information for the study begins with the genesis of the kindergarten movement.

The Genesis of Kindergarten

The embryo for today's modern American kindergarten can be traced to the European reform movement in the eighteenth century. Johann Heinrich Pestalozzi (1746-1827) was a Swiss educator who believed education should develop a child morally, physically, and intellectually. He felt that children learned best by using their own senses and by discovering things for themselves. His methods and theories were so successful that educators from all parts of the world came to study with him.²

The educational ideas of Robert Owen (1771-1858), a Welch-born social reformer, were greatly influenced by Pestalozzi's instructional methods and theories. Owen pioneered the cooperative community movement and in 1799 developed the New Lanark, Scotland community and also organized and set up the famous New Harmony, Indiana cooperative community in 1825. In both communities schools were built to educate

²Galen Saylor, "Pestalozzi, Johann Heinrich," The World Book Encyclopedia (1980), 14, p. 277.

the children, and Owen also established infant schools. "Owen's idea was to take children almost from the cradle and train them in good habits."³

Friedrich Froebel (1782-1852), a German educator and philosopher, was likewise influenced by the thinking of Pestalozzi and was credited with bringing kindergarten onto the educational horizon. He too believed in teaching the whole child and felt that education should, as much as possible, develop from real-life experiences and not just from mere book learning. Froebel, known as the father of the kindergarten movement, opened his first kindergarten in 1837 in Blankenburg, Germany.⁴ Although a few educators had established schools for educating young children prior to this time, Froebel was the first one to call his school a kindergarten. Adaptations and modifications of materials and theories that Froebel advocated can be found in today's modern kindergarten. His value of representative play is reflected in dramatic play and in the house-keeping center, his concern for children doing and discovering for themselves is seen in the variety of materials that are available in kindergarten classrooms, and his insistence that education be extended beyond the classroom is recognized in the short excursions, explorations, and field trips that are part of today's kindergarten programs.

Mrs. Carl Schurz, a pupil of Froebel, started the first kindergarten in the United States in 1855 at Watertown, Wisconsin.⁵ Mrs. Schurz,

³James L. Hymes, Jr., "Early Kindergartens," The World Book Encyclopedia (1980), 14, p. 277.

⁴Ibid.

⁵Ben Brodinsky, "12 Major Events that Shaped America's Schools," Readings in Education 79/80 (Guilford, Connecticut: Duskin Publishing Group, Inc. 1979) pp. 19-20.

a German immigrant with strong feelings about the importance of a kindergarten experience for young children, conducted this private German-speaking kindergarten in her own home. Two years later, in 1858, Miss Caroline Frankenberg opened the second private German-speaking kindergarten in Columbus, Ohio. Miss Frankenberg was a teacher who had studied under Froebel in Germany.

Then in 1860 the first private English-speaking kindergarten was founded in Boston, Massachusetts by Miss Elizabeth Peabody. As the kindergarten movement began to develop and expand, St. Louis, Missouri became the first American city to offer public kindergarten to young children. After this the kindergarten momentum continued and many cities became active in establishing public kindergartens. In Indiana, Indianapolis started public kindergartens in 1875.⁶

The Early History of Kindergarten in Evansville

Evansville, Indiana has supported and maintained an excellent kindergarten program since the late 1800's. The first kindergarten schools that were operated in Evansville were established in 1894 and were operated by a group of sixteen ladies who belonged to the Ladies Free Kindergarten Association. These kindergarten schools were independent and they were not connected with the city school system.

Public kindergarten was first offered in Evansville in 1899. The following information taken from the Evansville School Board Minutes of June 1, 1899 documents this fact.

⁶Neith Headley, The Kindergarten: Its Place in the Program of Education (New York: The Center for Applied Research in Education, Inc., 1965) p. 10.

On motion, the Board unanimously agreed to take charge of the two Kindergarten Schools now operated by the Ladies Free Kindergarten Association, with the understanding that the same is an experiment to be tried for one year.⁷

This was followed by the appointment of Miss Stella A. McCarty as supervisor of the kindergarten department on June 20, 1899.

Kindergarten continued as part of the Evansville Public Schools after this one year trial period and on July 23, 1900 the Board voted to locate an additional kindergarten room in the Canal Building.

The public kindergartens were well received and a committee of ladies attended the School Board Meeting on June 3, 1901 requesting that additional kindergarten rooms be opened for the coming school year. The board agreed to carefully consider this matter and on July 2, 1901 the following excerpt was recorded in the minutes. "It was finally decided to add two new kindergarten schools to the department, provided a room in each of Baker and Carpenter buildings can be used."⁸

By September 9, 1901 five full-time kindergarten teachers were employed by the school system and the first kindergarten assistant, Miss Julie Decker, was appointed on January 27, 1902 to assist at the Franklin Street Kindergarten for a half-day. From here the number of kindergarten rooms, teachers, and assistants continued to grow to meet the enrollment needs of the Evansville Public Schools.

Current Trends in Kindergarten

Various forces in the United States in the 1960's caused people

⁷Excerpts from School Board Minutes Regarding Kindergarten 1899-1943 (Evansville-Vanderburgh School Corporation, Professional Media Center) copied verbatim from School Board Minutes by Dorothy R. Owens.

⁸Ibid.

to question the way we were working academically with young children and resulted in a redefining of educational programs for young children. This upsurge of interest in educational programs for young children has expanded dramatically. Research in the early development of young children has increased. The amount of children enrolled in day care centers and kindergarten has tripled since the 1960's. Today it seems that the child's beginning years of life are being pushed into government, technology, and economics.

Cohen and Rudolph stated that "The kindergarten, long separated from the problems and anxieties of the total school community, was jolted out of its isolation to face new conceptions of children and new demands for children's learning."⁹ Cohen and Rudolph further indicate that the kindergarten came under pressure to "change with the times."¹⁰

These forces and changes in society along with the desire to include more formal and informal learning experiences stimulated the Evansville-Vanderburgh School Corporation into thinking about the possibilities of a full-day kindergarten program as an alternative to the traditional half-day kindergarten session. Factors that caused this interest included: more families where both parents were working full time, Head Start students already acclimated to a full-day format, a national trend toward full-day kindergarten sessions in public and private schools, five-year-olds entering school better prepared due to many hours of TV exposure, and additional classroom space made available by

⁹Dorothy H. Cohen and Marguerita Rudolph, Kindergarten and Early Schooling (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1977) p. 7.

¹⁰Ibid., p. 8.

enrollment and, most important, a desire to better prepare children for post kindergarten school experiences.

The Evansville-Vanderburgh Board of School Trustees gave their approval for the administration to analyze the feasibility of a full-day kindergarten program in September, 1978. Then in February, 1979 the Board gave their approval to implement a pilot full-day kindergarten program in four of their thirty elementary schools. Due to community interest in the young child's welfare and lack of documented research on full-day kindergarten programs, the pilot program was continued during the 1979-80 school year. This additional year was to provide the necessary time to further develop a workable program that could be successful and that would provide the opportunity for the community and schools to assess the program before possible expansion.

The concept of a full-day kindergarten program was not new. History indicates the kindergarten began as a full-day program. The full-day program is still considered the base of the educational systems in Europe, and many more school districts in the United States are beginning to place emphasis on the full-day program.¹¹ "Current interest in a return to the full-day program...is illustrated by a resolution adopted August, 1970 by the American Association of Elementary Kindergarten-Nursery Educators, NEA. This resolution advocated a full-day kindergarten be available to all children, organized flexibly to accommodate the needs of kindergarten children and teachers."¹²

¹¹ Mildred Winter and Alice E. Klein, Extending the Kindergarten Day: Does It Make a Difference in the Achievement of the Educationally Advantaged and Disadvantaged Pupils? U. S. Educational Resources Information Center, ERIC Document ED 087 534, 1970, p. 1.

¹² Ibid.

Early childhood specialist Butler says "Good programs for young children are built on the conviction that during early childhood a base is formed for the abilities, attitudes, interests, and values that will develop over a lifetime."¹³ Psychologists also indicate that the child's growth rate is most rapid during the first four or five years, and the child is more susceptible to environmental influences during this time.¹⁴ The full-day kindergarten program seemed to offer a unique way of enriching the base of the educational program. Having more time provided the opportunity for personalized instruction and a wider range of activities to help young children grow in their cognitive, psychomotor, affective, and linguistic areas.

Other than economics can we still justify the two and a half hour kindergarten session, since these early years are so critical to the development of the child's total potential?

Statement of the Problem

A major problem stems from the disagreement concerning the benefits and effectiveness of total learning and growth of the kindergarten child in the full-day program as compared to the half-day kindergarten program.

A theory underlying this study is that the full-day kindergarten can provide the time and flexibility to strengthen and support effective total learning and academic growth for the kindergarten child.¹⁵

¹³ Annie L. Butler, Early Childhood Education: Planning and Administering Programs (New York: Van Nostrand, D., 1974) pp. 1-2.

¹⁴ Ibid., p. 1.

¹⁵ Harry B. Gorton and Richard L. Robinson, "For Better Results - A Full-Day Kindergarten," Education, 89:217, February, 1969.

Still the apparent advantages of the full-day program are questioned by some parents, educators, and authorities.

The problem was to determine whether children who attended the full-day kindergarten showed greater growth in cognitive, psychomotor, affective, and linguistic skills than children who attended half-day kindergarten.

Statement of the Hypothesis

Kindergarten children who attend a full-day kindergarten program show greater growth in cognitive, psychomotor, affective, and linguistic skills than those children who attend the half-day kindergarten program.

Purpose of the Study

The major purpose of this study was to present some findings relative to the benefits and effectiveness of total learning in the full-day kindergarten program as compared to the traditional half-day kindergarten program. Evidence was to be compiled in two main ways:

- (1) a pilot program and study carried out over a one and a half year period, and
- (2) a review of the literature and research having a direct or indirect relevance to the problem.

Objectives of the Study

The objective of this study involving full-day kindergarten children from the four pilot schools and a random sampling of half-day kindergarten students from the other schools were as follows:

- I. To determine the loss or gain of cognitive growth in full-day and half-day kindergarten children during the pilot program

- II. To determine a limited indication of loss or gain in psychomotor, affective, and linguistic growth of full-day and half-day kindergarten children during the pilot program.
- III. To develop and present a realistic program for the implementation of a full-day kindergarten session
- IV. To test the null hypothesis that there is no difference in the total growth between the children who participated in the full-day kindergarten program and those who attended the half-day program using the following:
 - A. California Achievement Tests
 - B. Boehm Tests of Basic Concepts
 - C. Gates-MacGinitie Reading Tests
 - D. Questionnaires, Opinionnaires, and Interviews
 - 1. Parent
 - 2. Full-day kindergarten teachers
 - 3. First-grade teachers who received full-day kindergarten students in the fall of 1979
 - E. Task observation of half-day kindergarten children and full-day kindergarten children
 - F. Attendance records
 - 1. Attendance at the beginning of the week as compared to the latter part of the week for the total year
 - 2. Total percentages of absenteeism for both groups

Delimitations of Study

The following delimitations were used during the study and should be considered when interpreting results:

- I. The control group was restricted to half-day kindergarten children in the Evansville-Vanderburgh School Corporation. The control group contained two distinct groups. One consisted of children who attended half-day kindergarten during the 1978-1979 school year and then continued first grade during the 1979-1980 school year. The other group contained children who attended half-day kindergarten for the 1979-1980 school year. The control group was further restricted to those students who were present for all tests, observations, and task performances given during the fall and spring of each year.
- II. The experimental group was restricted to kindergarten children in Evansville-Vanderburgh School Corporation who attended half-day kindergarten during the first semester and full-day kindergarten during the second semester of the 1978-1979 school year. This same group continued first grade during the 1979-1980 school year. A second part of the experimental group consisted of students who attended full-day kindergarten for the entire 1979-1980 school year. The experimental group was further restricted to those students who were present for all tests, observations, and task performances given during the fall and spring of each year.
- III. The findings were restricted to factors measured by tests, questionnaires, opinionnaires, interviews, observations, and attendance records.

Definition of Terms

Full-day Kindergarten: A kindergarten class that meets for a

full school day from approximately 8:30 a.m. to 2:30 p.m.

Half-day Kindergarten: A kindergarten class that meets for 2½ hours in the morning or in the afternoon. Approximate meeting times would be from 8:30 a.m. to 11:00 a.m. or from 12:00 p.m. to 2:30 p.m.

CHAPTER II

REVIEW OF RELATED LITERATURE AND RESEARCH

A considerable amount of literature can be found that has a direct or indirect relevance to the benefits and merits of lengthening the school day for the kindergarten child. Actual research comparing the achievement of full-day kindergarten students to half-day kindergarten students is also available but not in abundance. Literature discussing the reasons for, justification of, and implementation of programs that lengthen the kindergarten day have been explored. Therefore, for the purpose of this study the literature and research will be reviewed under three headings: (1) increasing demands for early education, (2) justification for an extension of the kindergarten day, and (3) current findings concerning the extension of the kindergarten day.

Increasing Demands for Early Education

Dieuzeide (9) in his article, "Problems in Expanding Preschool Education," explained that industrialization had disrupted the family unit since the eighteenth century when the first nursery schools were established. As an ever increasing number of mothers continue to work outside the home, some type of care must be provided for their children. Over 765 million children under the age of six exist in the world today, and this number will approach 900 million within the next ten years. The numbers alone make the provision for even minimal care a phenomenal task.

Along the same line, another article from U. S. News and World Reports (35) pointed out how the changing social forces had affected early

childhood education. "Nursery schools--both public and private--will swell as more mothers take jobs."¹ Enrollment in the United States' nursery schools has tripled since 1968 and future enrollment predictions conclude that at least half of the three-to-five-year-olds will be attending nursery school by the early 1980's.

Dreskin (11) reported in an article entitled "Where Have All the Preschools Gone?" that morning preschools for three-to-five-year-olds had almost disappeared. "Yielding to financial and community pressures, almost all preschools had added day-care programs to serve working mothers."²

Law (25) noted in his article, "What Is Early Childhood Education?: Some Definitions and Issues," that research as well as governmental and economic interest in the child's pre-school years had increased as demands for quality care during recent years had grown. However, the concept of having early childhood public education has not been universally well accepted. The need for such a public expenditure is seen by many as the result of changes in society that are difficult to accept, changes such as the breakdown of the traditional family unit and the loss of parental responsibility for child-rearing.

Moore and Moore (27) reported that research findings indicate that the highest and best cognitive, affective, and physiological development, occurs when children are kept at home in a wholesome environment with one or two adults in a warm, close, consistent, and continuous relationship. "Research points to the undesirability of placing children

¹"Whatever You Want, A School Will Teach It," U. S. News and World Reports, October 15, 1979, p. 73.

²Wendy Dreskin, "Where Have All the Preschools Gone?" Instructor, May, 1980, p. 26.

younger than eight in programs of cognitive emphasis that require consistent reasoning of which they are not capable."³

However, a special report in the December, 1979 Instructor (21) held another viewpoint. The report cited the following prediction by the Urban Institute of Washington. By the year 1990, forty-five percent of the children under age six in the United States will have working mothers. For this reason organized day-care/early-education programs need to be expanded, accepted, and considered a social necessity. However, an attitudinal change must take place before this can happen. Smith, Executive Director of the National Association for the Education of Young Children, urged parents to realize that caring for children is a big responsibility that can be shared, and Hofferth, Research Associate at the Urban Institute, believed that parents must be reeducated to the fact that they are not the only ones who can care for their children. They need to realize that professional outside assistance can be beneficial to their child's total growth. Parents still have guilt feelings about leaving their children and are more comfortable leaving them with relatives or friends. Public acceptance of working mothers is becoming greater and with this, hopefully, the acceptance of pre-school programs will also gain endorsement.

According to Smith (33), the challenge our society must face is to establish an effective synthesis of the resources of families, communities, and professional educators to develop the potential of a child to his or her fullest.

³Raymond Moore and Dennis Moore, "How Early Should They Go to School?" Early Childhood Education 79/80, (Guilford, Connecticut: Dushkin Publishing Group, 1979), p. 29.

Smith further explained that the government has taken the initiative in developing young children's programs in response to economic reasons rather than in response to the young child's developmental needs. During the Great Depression and the 1930's, programs were funded to create more jobs, and then during World War II and the 1940's, they were funded to allow women to work in the war factories. Finally in the 1960's the inception of Head Start was initiated to improve economic opportunities.

Smith also wondered why our society is so unwilling to state outright that a child's developmental needs and a child's basic rights for opportunities that will develop his or her fullest potential are the real reasons for providing early childhood services and programs.

Pence (32) knowing the importance of developing good child care facilities warned against a society that refused to address itself to the needs of its children. While comparing the development of child care in the United States and Kenya, he asserted that a nation which did not plan for the needs of its young children might later be forced to pay for the more demanding and costly needs of its juveniles and adults.

Butler and LeVasseur (6) were concerned about the continued growth and acceptance of early childhood programs if public funds were cut. They presented a bleak picture for the future of preschool education if these funds were not available and preschool education became a private enterprise. This could happen as a result of certain measures like the passage of Proposition 13.

A statement from the NEA Educational Policies Commission (13) urged for an expansion of universal public education which would also

include early childhood education.

However, at the same time the Commission supported early childhood public education, they also stated that parents would still play an important role in their child's development.

"The NEA affirms the principle that the home and family are the basic unit in our free society and that parents have prime responsibility for the character development of their children."⁴

Justification for an Extension of the Kindergarten Day

Butler and LaVasseur, (5) two early childhood experts, urged in their editorial for more cooperation among public and private nursery schools, kindergartens, and elementary schools. They believed that a coordinated continuum between the three was essential in order to avoid drastic transitional changes as children progress in their educational experiences.

Dittman (10) quoted a Massachusetts superintendent concerning continuity in the child's passage from kindergarten to the primary years. In 1908, Gregory wrote.

In passing from the kindergarten to the primary school, there is a break. Do what you will to soften the change, to modify the break, it still remains a break. Three general methods of dealing with this difficulty have been employed:

- (1) To provide a connecting class to take the child out of his kindergarten habits and introduce him to those of the primary school; in the words of some teachers, "To make him over."
- (2) To modify the kindergarten to make it more nearly resemble the primary school.

⁴Joe L. Frost, ed., "Universal Opportunity for Early Childhood Education," Early Childhood Education Rediscovered-Readings (New York: Holt, Rhinehart and Winston, Inc., 1968), p. 5.

(3) To modify the primary school to make it more nearly resemble the kindergarten.⁵

Dittman commented further: "To these might be added a fourth: To do a little of each. Perhaps that is our answer today. We all need to give a little in order to gain a little from each other."⁶

One method of providing such continuity has been implemented by the Beecher School North in Woodbridge, Connecticut (17). This school system operated a shortened first grade day. First graders attend until 1:30 p.m. from September through March and until 3:00 p.m. for the remainder of the school year.

New Haven, Connecticut, was another town that adopted a shortened day for first grade students in 1973 according to Bordinsky (4). Since that time, several adjustments to their shortened day had to be made, but their 1979-80 schedule was as follows: (1) in September, first grade students came from 9:00 a.m. to 1:00 p.m., (2) during the first two weeks of October, they came three days a week from 9:00 a.m. to 1:00 p.m. and two days a week for a full day, and (3) after October 15, they started attending all week for a full day. One teacher from this school said, "Unless school systems provide a gradual transition from kindergarten to first grade, first graders may develop negative attitudes toward learning."⁷

An opposing point of view is substantiated by recent psychological research. Bloom (3) contended that approximately 17% of the child's

⁵Laura L. Dittman, "Continuity in Early Childhood Experience," Viewpoints in Teaching and Learning, 55 (Summer, 1979), p. 7.

⁶Ibid.

⁷Ben Brodinsky, "A Shortened Day for First Grades?" Today's Education, 69:1, February-March, 1980, p. 54.

intellectual growth occurs between the ages of 4 and 6. He suggests that during such a phenomenal period of growth, "kindergarten could have far-reaching consequences on the child's general learning pattern."⁸

In his article, "Japanese Attitudes on Giftedness and Creativity," Torrance (34) stated that in 1960 the United States was at the forefront of world creativity. Now, however, it seems to be reversed, and we have a national problem of underachievement. Torrance felt we could learn much from Japan, a nation that is characterized as having 115 million over-achievers. Japan's government creates an excellent national climate for creativity and development of giftedness by asserting that the creativity of each individual must be valued. While visiting Japan, he visited fifteen preschools and had the following to say:

In the fifteen preschools that I visited, the physical skills, musical performance, art products, dramatic enactments, and skills of group cooperation were beyond what I thought was developmentally possible. They were accompanied by a quality of creative expressiveness and also of problem solving that I had thought beyond the capability of children aged 3-6. Many people believe that emphasis on these skills accounts for the fact that there are not only no reading problems in Japanese schools but also an almost total lack of illiteracy.⁹

At the end of the article Torrance listed seven suggestions that he felt would solve our national problem of underachievement based on his observations of the Japanese people. One of the seven suggestions was:

We should provide a great many more experiences to children (especially aged 3-6) in developing physical, visual art, music, drama, dance, and team skills, and we should regard such skills as basic in education.¹⁰

A review of Piagetian theory by Ginsberg and Oppen (14) emphasized

⁸Benjamin S. Bloom, Stability and Change in Human Characteristics (New York: John Wiley and Sons, Inc., 1964), p. 231.

⁹Paul E. Torrance, "Japanese Attitudes on Giftedness and Creativity," Gifted Child Quarterly, XXIV (Winter 1980), p. 11.

¹⁰Ibid., p. 14.

the importance of appropriate experiences as the child progressed through the various stages of learning. The child should be allowed the opportunity to "apply their intuitive understanding to subjects covered in school."¹¹ Consequently, the task of the teacher is more demanding in that she must be aware of each student's stage of intellectual development in order to provide the most appropriate learning experiences.

Passow (31) pointed to research in early cognitive learnings and language development as a major reason for supporting the downward extension of schooling. The early childhood program should "compensate for environmental and experimental deficits, tailoring its units to unlock potential which is latent."¹²

Smith (33) stated that a great number of American children will not receive the proper developmental opportunities unless our society can find ways to assist parents in providing these necessary experiences.

Berson (2) saw the individual needs of children coupled with the diversity of home environment as reasons for explaining why some children profit from a full-day kindergarten experience, while others do not. A suggestion was made that any school district having the necessary resources should experiment with an extended kindergarten day.

A kindergarten curriculum guide for the state of Illinois (28) suggested full-day kindergarten as a viable alternative for some schools. The decision rests with the schools, parents, and the community to work

¹¹ Herbert Ginsburg and Sylvia Oppen, Piaget's Theory of Intellectual Development (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1969), p. 231.

¹² Harry A. Passow, "Early Childhood and Compensatory Education," Designing Educations for the Future: No. 2 (New York: Citation Press, 1967), p. 95.

for the best interests of the children involved.

Goals of the kindergarten as seen by contemporary educators were outlined by Yawkey and Silvern (38). Kindergarten's purpose is no longer seen solely as readiness for first grade. The contemporary kindergarten emphasizes several interrelated goals which involve a greater degree of complexity in curricular programming.

The 1980 World Book Encyclopedia included a section under Kindergarten entitled "Kindergarten Today." Hymes wrote (20): "Most kindergartens offer only half a day of school, with one group of children going in the morning and another in the afternoon. Many teachers believe five-year-olds benefit from a full day."¹³ This section concluded with the following:

Many educators believe that four-year-olds are ready for kindergarten. Some Canadian schools have established free junior kindergartens for these youngsters. For example, about 25 percent of Ontario's four-year-olds go to junior kindergarten, and the program is increasing in Manitoba and Nova Scotia.¹⁴

Gorton (15) viewed the full-day kindergarten program as being essential to the implementation of more involved curriculum. The full-day setting would provide time for more well-developed programs in language development, science, mathematics, social sciences, music and creative physical movement. The school lunch program was also seen as a learning experience of value which the full-day setting could offer. Of greatest value to the teacher in a full-day kindergarten would be the flexibility of scheduling which would allow for shorter but more

¹³James L. Hymes, Jr., "Kindergarten," The World Book Encyclopedia (1980), 11, p. 250.

¹⁴Ibid.

frequent reinforcement of a concept.

In a letter (7) written to Dr. Jack Humphrey, Director of Elementary Education for the Evansville-Vanderburgh School Corporation, Angeline P. Caruso, Associate Superintendent of the Chicago Public Schools, made the following statement: "I feel that full-time kindergarten is an idea whose time has come."¹⁵

Current Findings Concerning the Extension of the Kindergarten Day

Gorton and Robinson (16) in their kindergarten report presented the reactions and thinkings of administrators, teachers, and other educators who had given consideration to establishing a full-day kindergarten program. In 1968 when this report was published, Gorton and Robinson, through letters of inquiry, found the majority of respondents interested in the full-day concept. However, at that time, these same people seemed reluctant to develop a full-day program due to the cost factor, transportation difficulties, the break in tradition, and lack of research validating its feasibility. Gorton and Robinson's inquiries did establish that Hawaii had started some full-day kindergartens in 1945, and since 1955, full-day kindergarten has been a part of every elementary school in Hawaii.

In an evaluation of Project Head Start, Osborne (30) cited smaller class size as being one of the major factors in the program's success. Head Start has proven to be a catalyst for today's educators thinking about the downward extension and expansion of schools.

Ten years of Follow-Through, a spin-off of Head Start, reviewed

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Letter from Angeline P. Caruso, Associate Superintendent of the City of Chicago Schools, September 25, 1979.

by Hodges and Sheehan (19), listed the twenty-two programs used for instructions in kindergarten through third grade in the project. The evaluation of Follow-Through has been inadequate due to a mismatching between broad goals and the limits of measuring the outcomes, uses and misuses of evaluation, and attempts to fit inadequate research designs to the evaluations.

Mouw (29) provided a thorough description of the implementation of an alternate-day-full-day kindergarten program. The program was adopted by the Rhinelander Wisconsin School District who viewed it as a viable way to eliminate the noon transportation expenses that half-day kindergartens required. Two groups of students attended classes on alternate days.

One group attended Monday, Wednesday and Friday, during the first semester, and then attended on Tuesday and Thursday during the second semester. The other group attended Monday, Tuesday, and Wednesday on the first and third week of each month and on Tuesday and Thursday during the second and fourth week of the month.

Findings of the study were collected from surveys completed by involved parents, teachers, principals, and from results of the Cognitive Abilities Test given at the end of the school year to all kindergarten classes. Teacher attitude concerning the program used and not the program itself was found to be the most significant factor affecting success. Large motor and social skills were more readily learned in the full day situation, while art and language skills seemed to require daily reinforcement in order for learning to occur. At the conclusion of this alternate-day-full-day study, 31.8% of the parents surveyed were in favor of all-day-every day kindergarten.

The Minnesota Department of Education (23) reported that 55 public districts in Minnesota went to an alternate-day-full-day kindergarten program for the 1971-1972 school year. Results of studies showed that similar readiness skills were shown by both alternate-day-full-day and half-day students. The only noted difference was in higher scores from half-day students on their ability to name numerals and their knowledge of letter sounds due to daily reinforcement.

In a review of the Extended-Day Kindergarten Program piloted in the Phoenix School System, Alper and Wright (1) commended the success of the project. The goal of the three month pilot was "to provide more time for individualized and instructional activities and to increase parent participation in instruction."¹⁶ As well as attaining this original goal, the extended-day students were found to perform substantially higher on the Metropolitan Readiness Test and parents involved in the program expressed positive opinions concerning all aspects of the extended-day kindergarten. Features of the extended-day situation were: five classroom hours per day, decreased class size, participation in the school lunch program, and home visits by the teacher.

The evaluation of the Phoenix Extended-Day Kindergarten Pilot Program conducted by Woods (37) found the major strengths of the program to be parental involvement as well as the increased understanding of the children by both teachers and parents. At the conclusion of the three month pilot, a more in-depth study, including comparison of

¹⁶Carol L. Alpher and Donald Wright, "Extended Day Kindergarten Plus Parent Involvement: A Combination That Works," Phi Delta Kappan, September, 1979, p. 68.

extended-day and half-day performance, was recommended.

At the recommendation of the American Association of Elementary, Kindergarten, and Nursery Educators of NEA, who advocated that "a full-day kindergarten be available to all children, organized flexibly to accommodate the needs of kindergarten children and teachers,"¹⁷ an extended-day program was implemented in a large suburban school district (36). Winter and Klein, who reviewed the project, cited the greatly increased cost of operating an extended-day kindergarten, as the reason for conducting the pilot study. The validity of the extended-day program was judged on its ability to "produce differences in achievement for both educationally advantaged and disadvantaged pupils..."¹⁸

Two studies were conducted using kindergartens from four of seventeen elementary schools. Students were selected on the criteria of being least ready and most ready from standardized test results. Students involved in the program attended the regular morning kindergarten session, participated in a school lunch program, and remained for an additional ninety minute afternoon session. During the afternoon, students received reinforcement of concepts taught that morning, as well as individual and small group instruction.

Parents and teachers involved in the study scrutinized the extended-day students for any signs of fatigue, frustration, or disinterest in school. At the conclusion of the study, none of these symptoms had materialized.

¹⁷Mildred Winter and Alice E. Klein, Extending the Kindergarten Day: Does it Make a Difference in the Achievement of Educationally Advantaged and Disadvantaged Pupils?, U. S. Educational Resources Center, ERIC Document ED 087 534, 1970.

¹⁸Ibid.

Results suggested no significant differences at the end of kindergarten between extended-day students. However, Winter and Klein's review stresses a significantly limiting factor in that the standardized tests employed in the study were "readiness" tests and did not offer items of sufficient difficulty to test some children's ending levels of achievement. This assumption was supported by higher levels of achievement for the extended-day pupils noted at the end of first grade.

Day (8) suggested that a more valid evaluation of a successful early education program would include an in-depth study of student behavior within the program's environment. He contended that children tend to behave as expected, given an appropriate organization of the physical setting, a well-organized selection and presentation of materials, and appropriate adult behavior.

In a study conducted by Hatcher, Schmidt, and Cook (18), no significant differences were found between half-day and full-day kindergarten students when assessed by standardized instruments evaluating cognitive, affective, and psychomotor development. Other program objectives remained to be assessed and further investigation of the program was recommended.

The Ferguson-Florissant School District (12) adopted an all-day kindergarten program due to the increased amount of in-class time it afforded. The kindergarten curriculum emphasized a diagnostic-prescriptive teaching approach which featured individualized instruction. The half-day setting did not allow the necessary time for adequate implementation of such a program. Thirteen of seventeen elementary schools participated in all-day kindergarten for a full year. Advantages of the program were seen as allowing for a variety of activities and flexible scheduling during the school day.

In a comprehensive study conducted in the Fort Worth Independent School District (26), three interrelated objectives were utilized in the implementation of the project. One of these goals was to "compare the effects of half-day kindergarten with those of full-day kindergarten."¹⁹ The results of the two year program determined by standardized test scores revealed that full-day kindergarten sessions were most beneficial for children whose schools were judged as having either a high or a low socio-economic status. The data did not show significant gains for middle socio-economic schools involved in a full-day kindergarten.

Literature (24) distributed by the Division of Planning and Program Development in the public schools of St. Louis, Missouri described a Title I Program which was started in January, 1974 that extended half-day kindergarten into a full day of instruction. KED (Kindergarten: Extended Day) is a supplementary program for children who meet requirements that indicate they are likely to have difficulty adjusting to first grade expectations. Inner city children because of environmental deprivation often times need additional instruction to prepare for formal instruction that is encountered in first grade.

Children who qualify are enrolled in a regular kindergarten class for half of the day and attend a KED class for the other half. Fifty-six elementary schools in the Title I attendance area offer the program with approximately 1600 students participating. In order to give individualized attention and instruction in social and academic skills, KED classrooms are limited to no more than fifteen students. A diagnostic-prescriptive teaching approach with individualized

¹⁹ Fae Lysick and Charles L. Evans, Kindergarten - Fun and Games or Readiness for First Grade: A Comparison of Seven Kindergarten Curricula, U. S. Educational Resources Information Center, ERIC Document ED 121 803, March, 1976.

instruction is utilized in this program.

Johnson (22) compared pupil achievement in full-day and half-day kindergarten classes in the Princess Anne Elementary School, Princess Anne, Maryland. Two kindergarten classes consisting of twenty students each were evaluated using standardized instruments three times during the project. The results of the study determined that although there were no statistically significant differences in achievement levels of the two groups, the following recommendation was made. "Not all significant or valid goals of education are easily measureable, and it is quite conceivable that local conditions and certain specific goals might warrant full-day kindergarten."²⁰ As a result of this study, the full-day kindergarten will be continued and expanded within the school system. As Johnson points out,

A child's first six years are important ones in which a lasting impression is created upon individual intelligence, personality, and physical and mental growth: therefore, the public rightfully can demand the best possible education in those crucial years. This must include the availability of a sound full-day kindergarten program...²¹

²⁰Edith W. Johnson, An Experimental Study of the Comparison of Pupil Achievement in the All-Day Kindergarten and One-Half Day Control Group, U. S. Educational Resources Information Center, ERIC Document ED 115 361, 1974.

²¹Ibid.

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CHAPTER III

FULL-DAY KINDERGARTEN PILOT DESIGN

When the full-day kindergarten pilot program began in January of 1979 each of the pilot schools, Glenwood, Stockwell, Tekoppel, and Thompkins, had only one kindergarten classroom. These classrooms were large kindergarten classrooms with approximately 1,800 square feet compared to a normal classroom size of 900 square feet. Therefore, more than thirty children, which is an average size class, could be instructed in these larger classrooms utilizing kindergarten assistants. Staff personnel for each full-day kindergarten classroom consisted of one certified kindergarten teacher and from one to three kindergarten assistants depending upon the classroom enrollment. If three kindergarten assistants were employed in one room, one worked for part of the day and was considered a half-time aide.

Enrollment in three of the four pilot schools showed an increase at the start of the 1979/80 school year. The number of kindergarten students at Thompkins and Glenwood was much higher than had been anticipated. Student increase at Glenwood was so large that a second kindergarten room was opened to accommodate the students, making a total of five full-day classrooms during the 1979/80 school year.

The purpose of the full-day kindergarten program was the same as the half-day program. Both programs were designed to help children grow in cognitive, psychomotor, affective, and linguistic skills. The cognitive and psychomotor skills were taught by direct instruction: for example, by teaching letters of the alphabet using a workbook, while the affective and linguistic skills were taught by informal instruction: for example, in interest centers such as a playhouse or in show and tell

situations. The difference in full-day and half-day programs was the time involved. In the full-day program there was more time for elaboration as each skill was developed. Further, as children succeed in mastering skills, the additional time allowed students to move forward toward more formal instruction.

The teachers designed their daily schedule according to the needs of their children and the personnel available to them in their building. Some schools were able to schedule specialized teachers to teach full-day kindergarten children art, music, and physical education.

An array of kindergarten materials published by Ginn, Houghton Mifflin, and The Economy Company were utilized in the full-day kindergarten program along with various other supplementary instructional aids.

Two classroom schedules used during the pilot program are included in this chapter. One was used by a teacher who had two full-time kindergarten assistants and one half-time assistant, and the other was used by a teacher who had one full-time kindergarten assistant.

Classroom Schedule I

Personnel Used:

One certified kindergarten teacher
Two full-time kindergarten assistants
One half-time kindergarten assistant

8:15 - Children work quietly at tables or read while aide collects lunch money and takes attendance

8:30 - Opening Exercises: Good morning song
Pledge of Allegiance
Calendar
Temperature - weather

8:55 - Physical Education - aides take children to gymnasium for organized games and skill development. Physical education teachers may handle this area

*Teacher takes planning period at this time

- 9:30 - Restroom and Drinks
- 9:40 - Grouping - Group I - Teacher - Reading Readiness
Phonics
Initial Handwriting Instructions
- Group II - Aide 1 - Visual Motor Skills
Readiness Skills
Handwriting Reinforcement
- Group III - Aide 2 - Language Development
(Peabody - Duso)
- 10:05 - Groups Alternate - Group II - Teacher
Group III - Aide 1
Group I - Aide 2
- 10:30 - Groups Alternate - Group III - Teacher
Group I - Aide 1
(Aide 3 arrives) Group II - Aide 2
- 10:55 - Preparation for Lunch
- 11:00 - Lunch - Aide 3 - teacher and aides 1 and 2 have lunch at this time.
- 11:20 - Rest
- 11:30 - Noon recess - Aide 3
- 12:00 - Restroom and Drinks
- 12:05 - Stories - Sharing (communication skills)
- 12:30 - Mathematics or Language Program - Full group instruction
Full utilization of aides for lesson
- 12:55 - Music or Movement Exploration
- 1:15 - Social Studies or Science - Library
- 1:30 - Free Choice - using materials at centers
- 1:50 - Art
- 2:25 - Review of Day's Events
- 2:35 - Dismissal

Classroom Schedule II

Personnel Used:

One certified kindergarten teacher

One full-time kindergarten assistant

8:30 - Collect lunch money, take attendance (aide)
Children do seat work at this time (teacher assists children)

8:45 - Opening Exercises: Greeting song
Pledge
Calendar
Weather

9:00 - Restroom and Drinks

9:10 - Grouping - Group I - Teacher - Readiness
Language Development
Initial Handwriting Instruction

Group II - Aide - Peabody and Duso

9:30 - Groups Alternate

Group II - Teacher
Group I - Aide

9:50 - Free Choice (aide takes a break)

10:10 - Team Teaching - Students switch rooms and teacher teaches math to other kindergarten class, and her class receives reading readiness instruction from the other kindergarten teacher

10:45 - Prepare for Lunch

10:50 - Lunch (aide takes and supervises the children)

11:20 - Recess (aide supervises children on playground)

11:50 - Return to Classroom, Attendance

12:00 - Story and Conversation

12:15 - Mathematics

12:35 - Restroom and Drinks

12:45 - Social Studies, Health, or Science

1:05 - Art

1:40 - Teacher's Planning Period - Aide Stays With Class

Physical education in gym
Louie Language Program - speech therapist
Story or game

- 2:15 - Snack
- 2:30 - Music
- 2:40 - Pass Out Papers
- 2:50 - Coats On, Goodbye Song
- 2:55 - Dismissal

In addition to the possible readiness skills and concepts mastered in a half-day program, the increased length of time of the full-day program enabled the school staff to capitalize on many classroom instructional possibilities for reinforcement. Additionally, an in-depth curriculum for further exploration and enrichment beyond the realm of readiness was a major goal.

The curriculum was based on the following skills and concepts:

Language Development

I. Speaking Skills

- A. Labeling
- B. Expanding Vocabulary
- C. Describing Events
- D. Describing Details
- E. Speaking in Complete Sentences

II. Self-Expression

- A. Expressing Thoughts and Feelings
- B. Dramatization
- C. Relating Experiences
- D. Communicating with Others

III. Comprehension and Thinking

- A. Comparing
- B. Classifying
- C. Sequencing
- D. Interpreting
- E. Predicting Outcomes
- F. Drawing Conclusions
- G. Distinguishing between Fantasy and Reality
- H. Understanding Cause and Effect

IV. Reading Mechanics and Interest

- A. Top-to-Bottom Progression

- B. Left-to-Right Progression
- C. Reading Interest
- D. Letter-Symbol Recognition
- E. Word Recognition

Social and Emotional Development

- I. Social Development
 - A. Body Identification - name and locate body parts
 - B. Peer Interaction - relating to other pupils
 - C. Self-information - name, address, telephone number
 - D. Achievement and Interest Needs - participation and effort
 - E. Cooperation - sharing, relating to others
 - F. Independence and Responsibility - work independently and cooperatively
- II. Emotional Development
 - A. Attention Span - selective thought, concentration
 - B. Positive Self-concepts - personal worth, confidence
 - C. Moods and Feelings Awareness - recognize, understand, express
 - D. Appropriate Attitudes and Values - consideration, humor, self-discipline
 - E. Creativity - elaborate and original production, flexibility, reinterpreting
 - F. Stamina and Curiosity - healthy energy and endurance
 - G. Music Awareness - appreciation and expression
 - H. Art Awareness - appreciation and expression

Psychomotor Development

- I. Gross Motor Development
 - A. Crawl
 - B. Run, Gallop
 - C. Jump, Hop, Skip
 - D. Throw and Coordination
- II. Fine Motor Development
 - A. Small Muscle Coordination
 - B. Eye-Hand Coordination
- III. Sensory Development
 - A. Spatial Awareness
 - B. Balance and Rhythm
 - C. Follows Directions
 - D. Kinesthetic and Tactile Recognition
 - E. Left and Right Orientation
- IV. Perceptual-Motor Development
 - A. Auditory Discrimination

- B. Visual Discrimination
- C. Sensory Awareness
- D. Auditory Memory
- E. Visual Figure-Ground
- F. Sound-Symbol Recognition
- G. Visual Discrimination (color recognition)
- H. Visual Memory

Conceptual Development

- I. Mathematics Principles
 - A. Measurement (liquid and dry cup)-size, volume, money, time
 - B. Shapes - recognize, compare
 - C. Classification - match, sort
 - D. Sets - match, join, separate
 - E. Patterns - duplicate, extend
 - F. Numbers and Numerals - recognize, sequence
- II. Science Principles
 - A. Science Tools
 - B. Nutrition
 - C. Safety
 - D. Weather
 - E. Health and Hygiene
 - F. Plants
 - G. Animals
 - H. Seasons
 - I. Senses
- III. Social Studies Principles
 - A. Family-Community Relationships
 - B. Career Awareness
 - C. Environmental Relationships
 - D. Group Living
 - E. Awareness of Other Cultures
 - F. Citizenship and Patriotism
 - G. Important Times and People
 - H. Economic Principles

CHAPTER IV

EVALUATION DESIGN

The major purpose of this study was to present some findings relative to the benefits and effectiveness of total learning in the full-day kindergarten program as compared to the traditional half-day kindergarten program. To do this an evaluation design was developed that utilized a variety of evaluation instruments. Three standardized tests were administered to ascertain cognitive gain or loss; one locally developed task observation assessment was given to obtain a limited indication of psychomotor, affective, and linguistic growth; valuable observations and opinions were solicited from involved teachers and parents; additional opinions from full-day kindergarten teachers were collected by personal interviews; and attendance records were compiled and compared for differences in attendance patterns.

Experimental and Control Groups

The experimental group was automatically determined by full-day kindergarten students who attended the four pilot schools: Glenwood, Stockwell, Tekoppel, and Thompkins. The control group was selected by using a random sampling of half-day kindergarten students from schools that continued the half-day kindergarten session.

In order to have the same socio-economic background represented in the full-day kindergarten results and in the half-day kindergarten results, the random sampling of half-day kindergarten students for the control group was selected from schools that matched the socio-economic areas of the four full-day pilot schools. Care was also taken to obtain results from both morning and afternoon half-day kindergarten sessions.

The 1978/79 experimental group contained students who attended half-day kindergarten for the first semester and full-day kindergarten for the second semester. The 1978/79 control group contained students who attended half-day kindergarten for two semesters. Both groups continued first grade in the 1979/80 school year.

The 1979/80 experimental group consisted of students who were enrolled in the four pilot schools and attended full-day kindergarten for the whole year. The control group contained students who attended half-day kindergarten for the entire year.

Evaluation Instruments

A description of each evaluation instrument that was utilized in this study to test the null hypothesis that there is no difference in the total growth between the children who participated in the full-day kindergarten program and those who attended the half-day program follows in this chapter.

California Achievement Tests

The California Achievement Test, used to measure cognitive growth, is a comprehensive information system for educational evaluation. The kindergarten subtests measure the achievement of kindergarten children in prereading and mathematics skills. The prereading area consists of six separate tests: Listening for Information, Letter Forms, Letter Names, Letter Sounds, Visual Discrimination, and Sound Matching.

The tests were administered to the 1978/79 experimental and control groups during the same week in April of 1979 by the kindergarten teachers. The same procedure was repeated during the same week in March of 1980 for the 1979/80 kindergarten experimental and control groups.

Boehm Tests of Basic Concepts

The Boehm Tests of Basic Concepts, another test used to evaluate cognitive growth, is a test designed to measure a child's mastery of concepts considered necessary for achievement in the first years of school. This instrument assesses the child's knowledge of frequently used basic concepts widely but sometimes mistakenly assumed to be familiar to children when they enter kindergarten. The test is designed to aid in the detection and remediation of deficiencies.

This test was only administered to the 1979/80 full-day kindergarten students with test scores being compared to the middle socioeconomic norms that were established for the Boehm Tests. Form A was given by the kindergarten teachers in September of 1979 as a pre-test, and Form B was given as a post-test in April of 1980.

Gates MacGinitie Reading Tests

The Gates MacGinitie Reading Tests, Primary A, a third test used to ascertain cognitive growth, was used to collect follow-up data on the 1978/79 experimental and control groups. This data was utilized to determine if there were any differences in the achievement levels during the first grade between full-day and half-day students. The test consists of two parts. The Vocabulary Test indicates a child's ability to recognize or analyze isolated words, and the Comprehension Test measures a child's ability to read and understand whole sentences and paragraphs.

The Gates MacGinitie Reading Tests were administered to all first-grade students in the Evansville-Vanderburgh School Corporation during the same week in April of 1980. From these tests, results for the experimental and control 1978/79 groups were compiled.

Parent Questionnaire

A valuable contribution to the evaluation of the pilot program was the observations and opinions of full-day and half-day kindergarten parents. A parent questionnaire was developed for the study and approximately 230 were sent to full-day kindergarten parents and approximately 200 were sent to half-day kindergarten parents. The questionnaires were sent to the parents during the first two weeks of May in 1980. Questionnaires returned from the full-day kindergarten parents totaled 131, and questionnaires returned from the half-day parents totaled 119. A copy of the parent questionnaire can be found in Appendix A.

Full-Day Kindergarten Teacher Opinionnaire

The expertise and insight that can only be given by kindergarten teachers who have taught in both full-day and half-day kindergartens were solicited by developing a kindergarten teacher opinionnaire. The opinionnaire can be found in Appendix A.

Kindergarten Opinionnaire - First Grade Teachers

Another opinionnaire was also created to obtain opinions of first grade teachers who had received the 1978/79 full-day kindergarten children. These children had attended for half-day sessions during the first semester, and then for a full-day session during the second semester of the 1978/79 school year. Again, the opinionnaire can be located in Appendix A.

Interview - Full-Day Kindergarten Teachers

The full-day kindergarten teachers were also interviewed as to the advantages and disadvantages of the full-day kindergarten program. Their direct comments have been included in Chapter V to give a further

evaluation technique to this kindergarten study.

Task Observation Assessment

Using a short locally developed task observation assessment, a limited indication of the psychomotor, affective, and linguistic growth, as well as cognitive growth, was obtained for comparison of full-day and half-day kindergarten students.

Four certified teachers who had worked with young children interviewed forty full-day kindergarten children, twenty morning half-day kindergarten students, and twenty afternoon half-day students on May 15 and 16 of 1980. Children were asked to identify and locate items, explain how they would handle certain social situations, react to an emotional situation, and perform certain physical skills. A list of the ten tasks that were observed is included in Appendix A.

Attendance Records

Near the beginning of the 1979/80 school year, one of the full-day kindergarten teachers expressed concern that she seemed to be having more absences near the end of the week that she had previously experienced in her half-day sessions. She wondered if perhaps a full-day was more susceptible to illnesses. A decision was made to compare the attendance at the beginning of the week to the attendance at the end of the week for both half and full-day kindergarten students. This was done to see if there was any difference in the attendance pattern of the 1979/80 experimental and control groups. A further decision was made to compare the total percentages of absenteeism for both groups.

Statistical Procedures

In order to see if there were any significant differences in the

achievement levels of full-day and half-day kindergarten students, two statistical tests were utilized. The statistical t test was performed on the data collected from the three standardized tests that were used in the study. The statistical chi square test of independence was used on data tallied from the attendance records and from the task observation assessments. The full-day kindergarten and the first grade teacher opinionnaires were analyzed by employing the Likert Method. The parent questionnaires were evaluated by comparing the percentages of responses of full-day and half-day kindergarten parents.

CHAPTER V

ANALYSIS OF RESULTS

All data that were collected, compiled, and analyzed to lay the foundation for accepting or rejecting the null hypothesis are presented in this chapter. To insure a logical presentation of the data, each evaluation instrument and its statistical procedure appear in this chapter, interspersed with the appropriate statistical data.

Analysis of the California Achievement Test Scores

Data collected from the administration of the California Achievement Test in April of 1979 and in March of 1980 were analyzed to see if there were any differences in cognitive achievement between full-day and half-day kindergarten students. To determine whether or not the gains made by the full-day kindergarten students were significantly different from those made by the half-day kindergarten students, the statistical t test was performed.

Mean scores for full-day and half-day kindergarten students on each subtest of the California Achievement Test are compared in Table I. Both years, 1979 and 1980 are included along with the results of the statistical t test.

Results show that except in one case (Test III, 1979/80), all subtests and combined scores were significantly higher for full-day kindergarten students when compared to the subtests and combined scores of half-day kindergarten students. In 1979 the mean score for prereading skills for full-day students was 106.09 compared to a 96.50 mean score for half-day kindergarten students. This makes the achieve-

ment level of full-day students 9.59 higher than half-day students. In 1980 the full-day mean score in pre-reading was 102.38 compared to 95.70 for half-day students, making full-day 6.68 higher than half-day. The mathematics results show the full-day mean score higher by 4.22 for 1979 and higher by 2.99 for 1980.

This significantly higher achievement level, especially in pre-reading, would seem to indicate that full-day kindergarten students are better prepared academically for first grade than half-day kindergarten students.

Tables II and III show additional data that were obtained from the California Achievement Test results used in summarizing the information found in Table I.

TABLE I

MEAN SCORES OF THE FULL-DAY AND
HALF-DAY KINDERGARTEN STUDENTS
ON THE CAT IN 1979 AND 1980

	1978-1979				1979-1980			
	N=179 * Mean	N=217 ** Mean	t	p	N=229 * Mean	N=199 ** Mean	t	p
I. Listening for Information	14.44	12.62	6.92	<.005	13.83	13.02	3.23	<.005
II. Letter Forms	16.46	15.07	4.14	<.005	15.61	14.49	2.81	<.005
III. Letter Name	18.01	17.50	1.80	<.05	17.01	16.99	0.11	N.S.
II. & III. Alphabet Skills	34.46	32.58	3.31	<.005	32.79	31.50	1.77	<.05
IV. Letter Sounds	17.81	15.00	6.71	<.005	16.06	14.93	4.61	<.005
V. Visual Discrimination	14.61	13.29	4.01	<.005	14.53	13.67	2.42	<.01
VI. Sound Matching	24.59	22.97	3.20	<.005	23.90	23.16	1.35	<.05
V. & VI. Visual and Auditory Discrimination	39.20	36.34	4.01	<.005	65.72	66.84	2.30	<.05
I. & VI. Pre-Reading	106.09	96.50	5.92	<.005	102.38	95.70	3.30	<.005
VII. Mathematics	21.51	17.29	7.64	<.005	20.04	17.05	7.02	<.005

* Full-day

**Half-day

TABLE II

CAT SCORES OF THE FULL-DAY
AND HALF-DAY KINDERGARTEN
STUDENTS IN 1979

	Full-Day				Half-Day							
	ΣX	ΣX^2	$\bar{X}$	σ^2	ΣX	ΣX^2	$\bar{X}$	σ^2	F	p	t	p
Listen for Information	2542	37550	14.44	4.77	2738	36520	12.62	9.14	1.92	.01	6.92	.005
Letter Forms	2913	49411	16.46	8.35	3271	52382	15.07	14.24	1.71	<.01	4.14	<.005
Letter Names	3187	58493	18.01	6.30	3798	68580	17.50	9.75	1.55	<.01	1.80	<.05
Total Alphabet Skills	6100	214452	34.46	24.01	7069	239021	32.58	40.47	1.69	<.01	3.31	<.005
Letter Sounds	3152	58788	17.81	15.10	3255	52861	15.00	18.69	1.24	N.S.	6.71	<.005
Visual Discrimination	2586	39414	14.61	9.27	2858	40468	13.29	11.52	1.25	N.S.	4.01	<.005
Sound Matching	4353	110957	24.59	22.17	4985	120633	22.97	28.31	1.28	<.05	3.20	<.005
Total Visual/Auditory Discrimination	6939	279671	39.20	43.40	7813	295596	36.34	54.56	1.26	N.S.	4.01	<.005
Pre-Reading Total	18672	2015645	106.09	198.37	20747	2071100	96.50	322.72	1.63	<.01	5.92	<.005
Mathematics	3808	88944	21.51	39.88	3752	68583	17.29	17.17	2.32	<.01	7.64	<.005

N = Number

 ΣX = Sum of raw scores ΣX^2 = Sum of raw scores squared $\bar{X}$ = Mean score σ^2 = Variance

TABLE III

CAT SCORES OF THE FULL-DAY
AND HALF-DAY KINDERGARTEN
STUDENTS IN 1980

	Full-Day					Half-Day								
	N	ΣX	ΣX^2	$\bar{X}$	σ^2	N	ΣX	ΣX^2	$\bar{X}$	σ^2	F	p	t	p
Listen for Inform.	223	3085	44117	13.83	6.48	199	2590	35056	13.02	6.80	1.05	N.S.	3.23	<.005
Letter Forms	223	3482	57336	15.61	13.36	199	2884	45686	14.49	19.65	1.47	<.01	2.81	<.005
Letter Names	228	3878	69404	17.01	15.17	199	3377	60317	16.97	15.20	1.00	N.S.	0.11	N.S.
Total Alphabet Skills	223	7312	250292	32.79	47.46	199	6268	209940	31.50	63.20	1.33	<.05	1.77	<.05
Letter Sounds	228	3662	64900	16.06	26.80	199	2972	49352	14.93	25.08	1.07	N.S.	4.61	<.005
Visual Discrimination	225	3269	50507	14.53	13.45	198	2706	39600	13.67	13.29	1.01	N.S.	2.41	<.01
Sound Matching	229	5474	138280	23.90	32.59	199	4609	112965	23.16	31.40	1.04	N.S.	1.35	<.05
Total Visual/Aud. Discrimination	225	8691	350425	38.63	65.72	198	7289	281499	36.81	66.84	1.02	N.S.	2.30	<.05
Pre-Reading Total	217	22216	2355210	102.38	374.00	198	18948	1906290	95.70	472.20	1.26	<.05	3.30	<.005
Mathematics	223	4469	93991	20.04	19.96	199	3392	61406	17.05	18.12	1.10	N.S.	7.02	<.005

N = Number

 ΣX = Sum of raw scores ΣX^2 = Sum of raw scores squared $\bar{X}$ = Mean score σ^2 = Variance

Analysis of Boehm Tests of
Basic Concepts

The Boehm Tests of Basic Concepts were only given to full-day kindergarten students. Form A was given as a pre-test in September of 1979 and Form B was administered in April of 1980 as a post-test. Scores obtained from Evansville's full-day kindergarten students were compared to the average socio-economic norms established for the Boehm Tests. The statistical t test was performed on both the Evansville full-day students and the norm group to determine if there was any achievement difference between the two groups.

Summarized statistical analysis is shown in Table IV.

TABLE IV

1979/80 BOEHM SCORES FOR FULL-DAY KINDERGARTEN
STUDENTS AND THE BOEHM MIDDLE
SOCIO-ECONOMIC NORM GROUP

	Evansville Full-Day Kdgn. Students			Norm Group Middle Socio-Econ. Level			t	p
	N	Mean	Percentile Rank	N	Mean	Percentile Rank		
Fall Testing	203	36.25	65	912	31.80	50	7.79	<.005
Spring Testing	227	43.07	85	453	35.30	45	15.29	<.005

When the mean score of the pre-test (36.25) for the Evansville full-day kindergarten students was compared to the norm group, average socio-economic status, it had a percentile rank of 65. This is compared to a 31.80 mean score for the norm group which had a percentile rank of 50. At the onset then, we find the full-day kindergarten students in Evansville ranking 15 percent higher. This might be due to Head Start and nursery school experiences. The mean score of full-day kindergarten

students on the post-test (43.07) had a percentile rank of 85, using mid-year norms, while the norm group had a mean score of (35.30) which had a percentile rank of 45. This makes the full-day kindergarten students ranking 40% higher than the norm group. The change from a percentile rank of 65 to 85 suggests that the full-day kindergarten students progressed more than the norm groups did between the fall and mid-year testing. When the mean of the scores of the fall testing was compared with the mean of the scores of the spring administration, it was found that the spring scores were significantly higher ($t = 17.98$, $p < .005$). This confirms the rather obvious expectation that the students did significantly better in the spring than they did in the fall on the Boehm tests. Boehm results from each of the full-day kindergarten schools are presented in Table V for further evaluation.

TABLE V

BOEHM RESULTS BY SCHOOLS

School	N	ΣX	ΣX^2	$\bar{X}$	σ^2
School 1 - Room 1					
Pre-test	26	833	27611	32.04	36.92
Post-test	33	1313	52977	39.79	22.98
School 1 - Room 2					
Pre-test	28	983	35639	35.11	41.80
Post-test	38	1546	63480	40.68	15.74
School 2					
Pre-test	52	1743	60613	33.51	42.92
Post-test	61	2620	114530	42.95	33.31
School 3					
Pre-test	58	2216	87568	38.21	50.90
Post-test	56	2564	118128	45.79	13.34
School 4					
Pre-test	39	1584	65412	40.62	28.35
Post-test	39	1735	78085	44.49	23.68

N = Number

 ΣX = Sum of raw scores ΣX^2 = Sum of raw scores squared $\bar{X}$ = Mean

Analysis of Gates MacGinitie Reading Tests

Follow-up data on the 1978/79 full-day and half-day kindergarten students were obtained from the Gates MacGinitie Reading Tests that were administered in April of 1980 to all first grade students. To make these results more valid only full-day and half-day students who had attended kindergarten and first grade in the same school were used. Again, the statistical t test was performed to determine if there was a significant difference between the full-day and half-day scores. Results from this standardized test are summarized in Table VI which shows the mean score for both groups and the results of the t test.

TABLE VI

1980 GATES MACGINITIE SCORES FOR THE
1978/79 FULL-DAY AND HALF-DAY
KINDERGARTEN STUDENTS

	Full-day Kindergarten N=96	Half-Day Kindergarten N=148		
	Mean	Mean	t	p
Vocabulary	38.24	27.17	8.29	<.005
Comprehension	25.95	23.24	2.45	<.01
Total	64.19	50.41	6.12	<.005

Follow-up results show that the kindergarten students who attended full-day in 1978/1979 scored significantly higher than the kindergarten students who attended half-day with the statistical t test showing $t = 6.12$ and $p = <.005$.

The total mean score for full-day was 64.19 compared to a total mean score of 50.41 for half-day students. This makes the achievement level of full-day students 13.78 higher than half-day students at the

end of their first grade year. In comparing the mean scores for vocabulary (38.24, 27.17) and for comprehension (25.95, 23.24) we find full-day 11.07 higher in vocabulary and 2.71 higher in comprehension.

These results would definitely seem to indicate that full-day kindergarten students continue to achieve at a higher level during first grade than half-day kindergarten students.

For a more detailed evaluation of the Gates MacGinitie Reading Tests, Table XII in Appendix B shows the scores from each full-day kindergarten school. Table XIII in Appendix B shows the Gates MacGinitie Reading Test results for each of the four random samplings of half-day students.

Summarized Parent Questionnaires

The opinions of full-day and half-day kindergarten parents concerning their child's total learning in kindergarten were obtained from a ten item questionnaire. Parent preference and their reasons for selecting full-day or half-day kindergarten were also solicited on this questionnaire.

Table VII compares the responses of full-day and half-day kindergarten parents to the parent questionnaire. The table shows the total number of parents selecting one of the four choices ranked from most to least for questions one through six. In questions seven and eight there were only two selection choices. Decline refers to parents who chose not to answer that particular question. A copy of the parent questionnaire with the responses of full-day parents and another with the half-day kindergarten parent responses follows Table VII.

TABLE VII
RESPONSES OF FULL-DAY AND HALF-DAY
KINDERGARTEN PARENTS TO THE
PARENT QUESTIONNAIRE

QUESTION	Full-Day Parents N = 131		Half-Day Parents N = 119	
	TOTAL	%	TOTAL	%
Choice				
1 1	107	82	97	82
2 2	23	17	22	18
3 3	1	1	--	--
4 4	--	--	--	--
2 1	90	69	70	59
2 2	29	22	35	29
3 3	11	8	13	11
4 4	--	--	1	--
Decline	1	1	--	1
3 1	73	56	52	44
2 2	26	20	23	19
3 3	29	22	40	34
4 4	3	2	3	2
Decline	--	--	1	1
4 1	101	77	56	56
2 2	27	21	45	38
3 3	2	1	4	3
4 4	--	--	1	1
Decline	1	1	3	2
5 1	86	66	58	49
2 2	42	32	58	49
3 3	3	2	2	1
4 4	--	--	--	--
Decline	--	--	1	--
6 1	42	32	48	40
2 2	46	35	30	25
3 3	36	27	26	22
4 4	5	4	3	2
Decline	2	2	12	11
7 Yes	40	31	45	38
No	87	66	73	61
Decline	4	3	1	1
8 Full-Day	120	92	63	53
Half-Day	5	4	52	44
Split	2	1	--	--
Decline	4	3	4	3

KINDERGARTEN QUESTIONNAIRE FOR PARENTS
RESPONSES OF FULL-DAY KINDERGARTEN PARENTS

Name of School

Please fill out the following questionnaire regarding your son or daughter who is now in kindergarten. PLEASE RETURN COMPLETE QUESTIONNAIRE WITHIN TWO DAYS.

1. How much do you believe your child has learned in kindergarten?

107 My child has learned a great deal.
23 My child has learned an average amount.
1 My child has learned little.
0 My child has learned nothing.

2. In the last year, how has your child's ability to work and play with other children changed?

90 My child has greatly improved.
29 My child has improved a little.
11 My child has not changed much.
0 My child has regressed.

3. In the last year, what changes have you noticed in the relationships between you and your child?

73 Our relationship is much more pleasant.
26 Our relationship is a little better.
29 Our relationship has not changed much.
3 Our relationship is more difficult.

4. During the last year, how would you describe the change in your child's confidence in his or her ability?

101 My child gained much more confidence.
27 My child gained a little more confidence.
2 My child's confidence did not change much.
0 My child's confidence decreased.

5. How much of your child's total development in the last year would you say is from experiences in kindergarten?

86 Most
42 Some
3 Little
0 None

6. What learning experiences do you think are the most important for children in kindergarten? Rank the items from 1 to 4 with 1 being your first choice. (Number of parents who ranked these first.)

42 Learning about the alphabet, words, numbers.
46 Learning how to get along with other children.

36 Learning how to control and express feelings positively.

5 Learning how to control the body in more coordinated ways.

7. Is it necessary for you to have someone care for your child all day because of other demands on your time?

40 Yes

87 No

8. If you had a choice, which would you prefer for your child?

120 Full-Day Kindergarten

5 Half-Day Kindergarten

State reasons why you believe the full-day or the half-day kindergarten would be better.

9. How could your child's kindergarten experiences be improved?

10. What would you most want to remain unchanged about your child's kindergarten experience?

KINDERGARTEN QUESTIONNAIRE FOR PARENTS
RESPONSES OF HALF-DAY KINDERGARTEN PARENTS

Name of School _____

Please fill out the following questionnaire regarding your son or daughter who is now in kindergarten. PLEASE RETURN COMPLETE QUESTIONNAIRE WITHIN TWO DAYS.

1. How much do you believe your child has learned in kindergarten?

97 My child has learned a great deal.
22 My child has learned an average amount.
0 My child has learned little.
0 My child has learned nothing.

2. In the last year, how has your child's ability to work and play with other children changed?

70 My child has greatly improved.
35 My child has improved a little.
13 My child has not changed much.
1 My child has regressed.

3. In the last year, what changes have you noticed in the relationships between you and your child?

52 Our relationship is much more pleasant.
23 Our relationship is a little better.
40 Our relationship has not changed much.
3 Our relationship is more difficult.

4. During the last year, how would you describe the change in your child's confidence in his or her ability?

66 My child gained much more confidence.
45 My child gained a little more confidence.
4 My child's confidence did not change much.
1 My child's confidence decreased.

5. How much of your child's total development in the last year would you say is from experiences in kindergarten?

58 Most
58 Some
2 Little
0 None

6. What learning experiences do you think are the most important for children in kindergarten? Rank the items from 1 to 4 with 1 being your first choice. (Number of parents who ranked these first.)

48 Learning about the alphabet, words, numbers.
30 Learning how to get along with other children.

26 Learning how to control and express feelings positively.

3 Learning how to control the body in more coordinated ways.

7. Is it necessary for you to have someone care for your child all day because of other demands on your time?

45 Yes

73 No

8. If you had a choice, which would you prefer for your child?

63 Full-Day Kindergarten

52 Half-Day Kindergarten

State reasons why you believe the full-day or the half-day kindergarten would be better.

9. How could your child's kindergarten experiences be improved?

10. What would you most want to remain unchanged about your child's kindergarten experience?

In question one full-day and half-day kindergarten parents responded the same with 82% saying their child had learned a great deal. However, in questions two through five pertaining to a child's cognitive, psychomotor, affective, and linguistic growth, a larger number of full-day parents indicated that their child had attained at a higher level than half-day parents did. In question six no learning experience had a clear majority, but learning how to control the body in more coordinated ways was definitely selected as the least important learning experience for kindergarten children.

Question seven shows that 31% of the full-day parents find it necessary for someone to care for their child all day while 66% do not. Half-day parents indicate that 38% need someone to care for their child all day while 61% do not.

Of the 131 full-day parents who returned the questionnaire, 120 indicated in question eight that, if they had a choice, they would prefer full-day kindergarten instead of half-day kindergarten for their child. Five parents indicated a preference for the half-day session, two parents preferred half-day during the first semester and full-day during the second semester, and four parents chose not to answer this question.

All five statements from parents who would choose the half-day session for their child instead of the full-day session are included.

"I feel that a five year old doesn't need to go to school all day because most children this age still take a nap. My child and several others I know are worn out at the end of the school day and still take naps."

"Half-day is enough time each day for a student in kindergarten. This is an adjustment period for the child and half-day is enough time to adjust."

"I do not feel that the schools ought to be in the business of day care. Children also benefit a great

deal from the interactions with their parents and neighborhood and being in school all day takes some of this time away."

"Feel that they are too young for a full day, need time with mother. It doesn't seem necessary. We believe that half day concept is the best program for five year olds."

"Half-days are better because these children, or most, are too young the first half to adjust to being away from home so many hours. The classes are smaller to give more room, space, and teacher attention."

Statements from the two questionnaires that indicated they would choose half-day first semester and full-day second semester have also been included.

"I think the first semester is such a big adjustment that a half day is a good accomplishment and by the second semester they are ready to cope with a whole day."

"My husband and I believe the first semester full-day was extremely hard on our child. His class size was extremely large even though the teacher had three helpers. He had problems adjusting first semester. Believe he would have done better slowly advancing."

Ninety-two percent, an overwhelming majority of the full-day parents, indicated they would prefer the full-day kindergarten experience for their child. Due to the space it would take to include all their reasons, a partial sampling of their comments has been incorporated in this study.

"I felt my child was ready for full day kindergarten. He would have been bored otherwise. He thoroughly enjoyed full day kindergarten. I don't think it is for every child, but my son has learned a great deal."

"I believe it's a waste of time to send a child 2½ hours to school, five days a week, when he can go all day (five days a week) and learn more."

"I feel it's better for the child to get used to the full day school pattern. I always felt a half day was just too short. In my girl's case she rode to school

and back with her sister - this made it more convenient and assuring to the child."

"Because I think they learn more when going to full-day kindergarten, and it gives them a chance to learn to be away from their parents, and to get along with other children."

"Kids are going to nursery school more and more and I think they are ready to learn more. With gas being what it is, it sure would save on transportation if you could pick up all your kids at once!"

"I think 5 year olds are much more mature and sophisticated now and are ready for full-day kindergarten, especially my child who had gone to nursery school three years and other who had done this."

"I think full-day kindergarten is better because it gives the teacher more time to teach more of a variety."

"I prefer full-day kindergarten because I believe it prepares my child for first grade a lot better than half-day. Mindy has learned considerable more than my oldest daughter did in half-day."

"Full-day - more hours available to teach the child; better prepare the child for first grade (sitting and listening for longer periods)."

"I believe the full-day program has been beneficial for my son. He has had preschool experience and was ready for a more challenging program. The full-day program can offer a more challenging program than a half-day."

"I don't think that a half-day kindergarten allows enough time for children to learn everything they are expected to in kindergarten."

"Full-day is better for my child because she was older (October birthday) and ready for full-day. Going all day gave her more time to learn. I think a better learning program can be built in full-day rather than half-day. It is practical for working mothers."

"For myself I think it's better because he has learned so much, and he loves school. He enjoys being in school all day and that counts a lot."

"Full-day kindergarten is better because they (the children) are better prepared for the first grade. It's a very good utilization of the child's time."

"The extra time spent in the full-day kindergarten allows for more activities for the children to take part in. As my older daughter who was in half-day often said, 'I never got to do that when I was in kindergarten,' simply because there wasn't enough time."

"Full-day kindergarten gives the child a better variety of things to learn and more time to learn them in. They learn more than just the basic skills and are better prepared for first grade, I think."

"I feel the children have an opportunity to learn more in full-day kindergarten under qualified supervision."

"I feel like they can devote more time to each subject during a full-day. The children definitely learn more."

"Children of today continually want to learn more and more at an earlier age."

"My oldest child went to kindergarten on half-day basis and I feel that my son by going all day has gained a lot more knowledge and understanding than his sister. I feel he's more prepared for first grade."

"Full-day kindergarten has a much more stable schedule. The children do not have to rush through their learning skills as much, and can study in a wider range of studies and skills. Children seem to enjoy school much more going a full day. They have to do at least some things on their own (such as at lunch time) that wouldn't be if they only went half-days. Full-day is a better initiation into the stricter all-day schedules of first grade."

"I never have felt half-day kindergarten was worthwhile. Full-day kindergarten has really given my son a positive school experience. He has learned a lot more self control and will be more ready for grade 1."

"My son was 6 in December and already had two years of nursery school, so I felt he was ready for full-day kindergarten."

"Full-day kindergarten because it gives the teacher more time to teach more things in an uninterrupted manner. Children today are more sure."

"I feel that most mothers have sent their children to nursery school and pre-school and that most of these children are ready for full-day kindergarten. My child was ready for full-day and loves it."

"The half-day kindergarten is too short. They attend nursery school for a longer period of time. The way the half-day program is in Evansville - the child just gets there and gets settled when it's time to start getting ready to go home."

"By going full-day they have so much more time to learn and apply what they've learned. Also they feel more a part of the school by being included in art, music, and gym, and assemblies."

"Learn more things during the year - being with children their own age - most have attended nursery school so they are used to being away from home for long periods of time. I believe he has learned more things than if he only spent a half day there. He is spending his time more constructively than if he were out playing. He is much more disciplined now than before he started kindergarten. I don't think that would have been accomplished as well if he was only at kindergarten for three hours."

"The full-day kindergarten in my reasoning is far better because children at the age of five have far too much time on their hands. They should be in school learning. If I had my way they would start school at four."

"I think the child should get used to going to school a full day the first year. To me, first grade would seem like a long day after only going a half-day in kindergarten. The child needs to know what is in store for him the first year."

"My son really enjoyed school and I never would have been able to stimulate his mind so much. I feel like he was really ready for a full-day experience and it was not too tiring for him."

"It gives the child a feeling of belonging with school. A growing experience of what school is going to be like for the next twelve years."

"My child was in nursery school full-time at age 4. A half-day kindergarten would have seemed like baby stuff. She needs a school which is geared to the proper level. A full-day kindergarten fulfills this need much better."

"I feel that the full-day kindergarten is better. A child at the kindergarten level in today's world is

much more aware of events in his community and world than a child at this level was a decade or more ago. Because he or she is exposed to so much more today, a head start on an education can only be to his or her advantage."

"In my case my daughter turned five years in August - began school in September. She was one of the younger children and I think full-day kindergarten has helped her prepare for the first grade more than what half-day would have."

Of the 119 half-day parents who returned the questionnaire, sixty-three stated they would select full-day kindergarten if they had the choice, fifty-two indicated they would select half-day, and four chose not to answer the question.

Half-day parents gave thoughtful and concerned reasons for choosing a half-day kindergarten experience for their child. A cross section representing one fourth of the comments written is included.

"A 5 or 6 year old child needs a more gradual introduction to education - parents should spend the extra half day with the child in constructive ways. Some parents leave the entire job of education up to the school - a full-day kindergarten might further encourage this."

"I feel that a full-day program would be too demanding for a child of kindergarten age."

"Half-day kindergarten is enough. Children are only young once and they go all day for twelve or more years."

"Half-day is just enough for the child to adjust to and gradually eases him into full-day class and learning experiences. Gives parents the other half day to share in their learning."

"I am totally amazed at the things my child has learned in school this past year. Currently there are 30 plus children in the a.m. session, and 33 children in the p.m. session. One teacher and one assistant have accomplished a great deal with my child, and I do not feel that he would have received the same quality of education in a larger classroom. In view of the current finances of the EVSC, I doubt that the current student/teacher ratio would be improved or even maintained in

a full-day kindergarten setting. I do not feel that the current quality of education could be maintained if larger quantities of students are involved, and the number of teachers remain constant. Finally, my child has at least twelve more years of school. At some point he will tire of school, and I feel a whole day of school in kindergarten would precipitate these feelings at an earlier age."

"It really depends on the child or working situation of parents. But I feel that many children need a period of adjustment between being at home all day and spending the whole day in school."

"A full-day seems too long for small children. They would probably get restless. But full-day would be convenient for working mothers."

"Depending on the child's maturity the half-day is probably still the most exposure this age group can tolerate."

"Not all parents can afford pre-school, so many children are relating to other children for the first time and full-day would be a bit much."

"I believe half-day kindergarten is better because it gives a child an opportunity to adjust to school, and I think his ability to learn and comprehend is better because he is not worn out by a full-day affair."

"Some children are not ready for a full-day. The older ones may be. Half a day is kind of a breaking in period - they know next year they get to go a full day."

"Half-day I believe is better because, as a new experience for some children, full-day would be quite traumatic and too demanding on them. Half-day gives them enough for a 5 or 6 year old as a first experience in school."

"Mothers who work would like full-day, but I do not work. I think children are being pushed earlier and earlier, even though they don't seem to mind at this time."

Many viable and sound reasons for selecting a full-day kindergarten for their child, if they had the choice, were expressed by half-day parents. Since these opinions mirror that of the full-day parents, it is not necessary to present a lengthy sampling of their comments. Therefore, a cross section representing one fourth of their

comments is included.

"The half-day has been more of a burden than a help for the working mother. I must provide a babysitter and extra transportation. Most children have a preschool experience and I feel full-day should be available for those ready for a full-day kindergarten. I am not advocating a babysitting service, but a quality educational experience."

"My children have taken a full year of nursery school, so they basically know their alphabet, recognition of the letters, how to count, how to print. My son was disappointed that kindergarten lasted for only 2½ hours. Having had nursery school experience, he was ready for more organized time than I feel qualified to give to him. The key word I think was organized. The basic ideas that were started were so rewarding for my son that I feel to continue all of those with the possibility of expanding them to a full day would be ideal."

"The more time kindergartners can spend learning to believe in themselves, the better prepared they will be to enter the primary level later on. I think self-confidence is the basis for learning and that academic skills, at this point, are a bonus by having more time. I think if they could alternate learning and playing with rest periods, they would be better off than trying to work at such a fast pace in the 2½ hours they have."

"The world is a much tougher place to live in. I think children need all the training they can get starting a little earlier. At home and at school."

"There doesn't seem to be enough time in half-day kindergarten. The children no sooner get there and then it is time to come home."

"They have so little time for learning in half a day kindergarten."

"I believe that most children these days have already been to nursery school and/or a day care center and could make the adjustment to a full-day kindergarten very well."

"With so many mothers having to leave the home and go to work it's hard to find someone to care for children in kindergarten because they have to find someone who can get the children to and from school, going full-day you have use of the bus system or older children to walk to and fro with."

"Full-day would allow for more time to be able to concentrate on the children having problems with learning. For working parents, transportation problems would be alleviated."

"Because it wouldn't cut their learning short like half a day does, they have more time to learn."

"Full-day would help to adjust for the rest of the years ahead and help working parents and possibly omit a sitter."

"The children don't really have enough time for all things that could be covered if children were to go full-day to kindergarten."

"Full-day would be better for the child because he could adapt to going to school all day which would be better for first grade. Also, it is troublesome for mothers to take their child just for a half day."

"I think full day would be better to get them used to being in school all day because of first grade and all through school. I think they can learn more for their first grade year."

"I think most children now are much more advanced. Most children are used to going to day care centers before they reach kindergarten."

Question nine in the parent questionnaire produced the following answers. Of the 131 full-day kindergarten parents who returned the questionnaire, 39% were pleased and didn't suggest any improvements; 16% thought that a smaller class size would improve their child's kindergarten experience with the majority of these comments coming from the two pilot schools with the largest classroom enrollment; 25% gave various answers that did not combine into like groups; and 20% left the question unanswered.

Of the 119 half-day parents who answered the questionnaire, 39% were pleased and didn't suggest any improvements, 16% thought a longer kindergarten day would improve their child's kindergarten experience, 22% gave various answers that did not combine into like groups, and 26% left the question unanswered.

Question number ten did not produce any significant homogeneous groupings for either group except that many parents were extremely pleased with the teaching ability and the love and concern for young children that the kindergarten teachers had.

Analysis of Full-Day Kindergarten and
First Grade Teacher Opinionnaires

Two opinionnaires were created to obtain teacher opinions toward full-day kindergarten. One was developed for full-day kindergarten teachers and the other for first grade teachers who had received full-day kindergarten students. A copy of both opinionnaires with the teachers' opinions follows the results. The Likert Method and Scale was used in developing and analyzing the results. This involved creating a list of positive and negative comments with regard to full-day kindergarten. After each comment every teacher had a choice of five responses: strongly agree, agree, undecided, disagree, and strongly disagree. To formulate these opinions into one mathematical total that represented the majority opinion, numerical values of one to five were assigned to each response. On a positive statement a "strongly agree" was worth five points, and a "strongly disagree" was worth one point. On negative comments the scale was reversed with a "strongly disagree" worth five points and a "strongly agree" worth one point. Thus, the higher the numerical score was, the higher the opinion for full-day kindergarten. After the numerical score for each question had been tallied, the total for each of the two opinionnaires was added up. To provide a scale on which to base the results, the highest possible score and the lowest possible score were calculated. In addition, the neutral score (the total that would have been generated by every

teacher marking every question "undecided") was also tallied. The results:

First Grade Teacher Opinionnaire

N = 9

Most favorable response possible	630
A neutral attitude	378
Most unfavorable attitude	126
Actual score	377

Full-Day Kindergarten Teacher Opinionnaire

N = 5

Most favorable response possible	325
A neutral attitude	195
Most unfavorable attitude	65
Actual score	254

Results show that full-day kindergarten teachers have a favorable attitude to the full-day kindergarten concept while first grade teachers remain undecided.

It should be noted that number three in the full-day kindergarten opinionnaire was not included in the Likert Scale, as it expressed neither positive or negative feelings about full-day. However, this statement is important to the study, and it is the only statement with which all five full-day kindergarten teachers strongly agreed.

Results of Full-Day Kindergarten Teacher Interviews

The following expert opinions formulated while teaching in a full-day kindergarten program were obtained during personal interviews

KINDERGARTEN OPINIONNAIRE - FIRST GRADE TEACHERS

9 Teachers

The following statements represent opinions, and your agreement or disagreement will be determined on the basis of your particular convictions. Please check your position on the scale for each statement.

- a. I strongly agree
- b. I agree
- c. I am undecided
- d. I disagree
- e. I strongly disagree

	a	b	c	d	e
1. I would rather have students enter my first grade classroom with a full-day kindergarten experience rather than a half-day kindergarten experience.	1	1	6	1	
2. Half-day kindergarten students were better prepared for first grade work habits than full-day kindergarten students.		1	2	4	2
3. Full-day kindergarten students function more independently than half-day kindergarten students.		4		5	
4. The children who have attended full-day kindergarten have a better mastery of readiness skills than those who have attended half-day kindergarten.	1	5	2	1	
5. Half-day kindergarten students are more excited about coming to first grade than full-day kindergarten students.	3		1	3	2
6. Full-day kindergarten students seem to be bored with first grade material.		1	4	2	1
7. Full-day kindergarten children seem to socialize better within their peer group than half-day kindergarten students.		3	1	2	3
8. I do not see any difference in the abilities of half-day kindergarten students and full-day kindergarten students.		5	3		1
9. I feel that a half-day kindergarten experience is better for five and six-year-olds than a full-day experience.	1	6	1		1

	a	b	c	d	e
10. Full-day kindergarten students have a better knowledge of letter names and letter sounds than half-day kindergarten students.	1	4	2	2	
11. Fine motor skills and handwriting readiness is further developed in the full-day kindergarten student than in the half-day kindergarten student.		2	5	2	
12. Full-day kindergarten students do not have better gross motor coordination than half-day kindergarten students.		6	2		
13. Full-day kindergarten students can follow directions better than half-day kindergarten students.		3	4	2	
14. The attention span of half-day kindergarten students is longer than the attention span of full-day kindergarten students.		1	6	1	1

KINDERGARTEN OPINIONNAIRE
FULL-DAY KINDERGARTEN TEACHERS

5 Teachers

The following statements represent opinions, and your agreement or disagreement will be determined on the basis of your particular convictions. Please check your position on the scale for each statement.

- a. I strongly agree
- b. I agree
- c. I am undecided
- d. I disagree
- e. I strongly disagree

	a	b	c	d	e
1. I do not like the concept of full-day kindergarten.			1	3	1
2. If my classroom size is 40 or below, I would rather teach in a full-day kindergarten classroom than in a half-day kindergarten classroom.	1	1	2		1
3. If the classroom size is 50, I would prefer a half-day session with 25 in each session rather than teach 50 in a full-day program.	5				
4. Full-day kindergarten students become more independent than half-day kindergarten students.	1	4			
5. Full-day kindergarten students had difficulty handling the lunch hours.				1	4
6. Full-day kindergarten students retain more than the half-day kindergarten students because there is time to reinforce the concepts that are taught.	1	3	1		
7. The majority of my kindergarten students were too tired in the afternoon to benefit from instruction.				2	3
8. The immature kindergarten child has more difficulties adjusting to a full-day situation than the mature kindergarten child.	1	1	1	2	
9. Full-day kindergarten is better for the child because the students can participate in the total school program.	1	3	1		
10. Half-day kindergarten students are able to master the same readiness skills as the full-day kindergarten students.	1	1		3	

	a	b	c	d	e
11. Full-day kindergarten students have more opportunities to socialize with their peer group. _____	1	4			
12. Full-day kindergarten students have a better knowledge of letter names and letter sounds than half-day kindergarten students. _____	1	4			
13. The attention span and listening skills of half-day students is better than full-day students. _____			2	2	1
14. Full-day kindergarten should be continued and expanded in the Evansville-Vanderburgh School Corporation if classroom size is realistic. _____	1	3	1		

with the full-day pilot teachers in Evansville. These opinions were expressed when asked, "What are the advantages and disadvantages of a full-day kindergarten program?" These comments were important to the evaluation of the pilot program.

Disadvantages

"The disadvantage that I see to my full-day program is classroom size. Inner city children need a great deal of individual help and attention. If full-day kindergarten is continued or expanded, I personally feel that 30 students with one assistant would be more beneficial to inner city children than my present enrollment of 40 students with one assistant."

"My classroom size is too large. I am not able to give personal attention to each child every day. The quiet child and the good child often lose out."

"When full-day kindergarten children go to first grade, the range of readiness is broadened even further."

"More work for the teacher in preparing lessons for an entire day rather than a half day."

"A few children seem to show signs of daily fatigue."

"There is an increase in work and planning for the work of the aides."

Disadvantages of a Large Class

One teacher stipulated that these were disadvantages only if a full-day kindergarten has over forty students.

"There is a concentration of discipline problems when a group is very large."

"A loss of incentive on the part of the teachers to do some projects because of logistics - i.e., prepare a meal."

"The kindergarten room's physical facilities do not comfortably accommodate more than 40 children."

"Bookkeeping is a mountainous task because five and six year olds do not know what the monies are for when they

bring it in. We have to educate the parent to label all envelopes."

"Logistics cause loss of teaching time when using the restroom and when the class gets ready for lunch or physical education."

Advantages

"In disadvantaged areas all children receive a good noon meal."

"Enlarged curriculum opportunities for a more in-depth study in areas of social studies and science. There is also more time for music and art."

"More time spent on readiness and concept development."

"Children become more independent due to their experience in the lunch room."

"Children receive daily instruction in language arts, concept development, and handwriting. In a half-day situation this is not always possible."

"Parents seem to approve whether they are working parents or not."

"First grade teachers feel that the children are well prepared."

"The biggest advantage of a full-day kindergarten is that I have the afternoon to reinforce the skills and concepts that I teach in the morning."

"I have more time to work with children on an individual basis."

"I was amazed that my students didn't need a rest period when school began in the fall."

"This is the first year since I began teaching that every child in my room was able to name each letter and say its letter sound. I'm sure this can be attributed to the reinforcement activities I was able to do in the afternoon."

"If the classroom size is 40 or under, the full-day program is an excellent opportunity for young children. If the classroom size is larger than this, I don't feel it would be a feasible situation."

"Full-day kindergarten provides more time for teaching and reinforcing."

"My children were able to participate in music, art, and physical education, and this provided more opportunities for them to develop their listening skills and learn how to follow directions."

"Full-day allowed my assistants and I more time to work with the slower children."

"Full-day is a more relaxing situation. You do not feel so rushed. If a morning project is not completed, there is time in the afternoon to complete it."

"The full-day child has more adult and children relationships - i.e., more social contact."

"Full-day programs provide the time for those needing extended readiness activities."

"The full-day program provides time for enrichment activities."

"Full-day children became more of a part of the total school - participating in all primary program activities."

"Full-day provides time to integrate more areas of the curriculum than the half-day session affords - i.e., self concept lessons."

"The full-day child can walk to and from school with a brother or sister or neighborhood children."

"I like the concept of a full-day kindergarten, but the number of children involved must be realistic."

Analysis of Task Observation Assessment

Data organized from the Kindergarten Task Observation Assessment were used to obtain a limited indication of the psychomotor, affective, and linguistic growth, as well as the cognitive growth of full-day and half-day kindergarten students. This was developed to use first hand observations as an evaluation technique. The statistical chi square test of independence was used to see if there were any significant differences in the task performance of full-day and half-

day kindergarten students. The number of acceptable and nonacceptable performances for each task are listed below, and a copy of the Task Observation Assessment with full-day kindergarten student responses and another with half-day kindergarten student responses follows.

TABLE VIII
RESULTS OF TASK OBSERVATION ASSESSMENT

Task	Full-Day	Half-Day	Total	χ^2	p
1 Acceptable	40	40	80	0.00	N.S.
Non Acceptable	0	0	0		
2 Acceptable	40	40	80	0.00	N.S.
Non Acceptable	0	0	0		
3 Acceptable	34	31	65	0.33	N.S.
Non Acceptable	6	9	15		
4 Acceptable	31	38	69	3.79	N.S.
Non Acceptable	9	2	11		
5 Acceptable	26	22	48	0.47	N.S.
Non Acceptable	14	18	32		
6 Acceptable	24	34	58	5.08	<.05
Non Acceptable	16	6	22		
7 Acceptable	32	30	62	0.07	N.S.
Non Acceptable	8	10			
8 Acceptable	39	36	75	0.85	N.S.
Non Acceptable	1	4	5		
9 Acceptable	24	26	50	0.05	N.S.
Non Acceptable	16	14	30		
10a Acceptable	3	7	10	1.03	N.S.
Non Acceptable	37	33	70		
10b Acceptable	12	20	32	2.55	N.S.
Non Acceptable	28	20	48		
10c Acceptable	13	13	26	0.00	N.S.
Non Acceptable	27	27			
11 Acceptable	30	37	67	3.31	N.S.
Non Acceptable	10	3	13		

After the chi square test of independence was performed for each task to see if there were significant differences between the task performances, a significant difference was found in only one task. On number six, half-day students performed at a higher level than full-day students. However, the reader should realize that there was no right or wrong solution to this task. The acceptance of a child's solution was left to the discretion of the four teachers who administered the assessment. Therefore, the reliability of this task is questionable.

Analysis of Attendance

To determine if full-day was more tiring than half-day kindergarten, causing more illness or more absences toward the end of the week, attendance by the day was compiled for the 1979/80 experimental and control groups. To learn if there were any significant differences in the attendance pattern of both groups the chi square test of independence was used. The number of absences of full-day and half-day kindergarten students for each day of the week is shown in Table IX.

TABLE IX

ABSENCES OF THE 1979/80 FULL-DAY AND
HALF-DAY KINDERGARTEN STUDENTS
BY THE DAY

Days	Full-Day Mean	Half-Day Mean
Monday	21.15	23.81
Tuesday	19.68	20.89
Wednesday	16.85	18.63
Thursday	18.38	19.19
Friday	22.15	24.96

Chi square was equal to 0.05 which indicates there is no significant difference between the attendance pattern by days of full-day and half-day kindergarten students. Both groups had more absences on Monday and Friday with fewer on Wednesday.

Table X shows the number of absences during three nine week periods for both groups.

TABLE X
1979/80 ABSENCES DURING THREE NINE WEEK
PERIODS FOR FULL-DAY AND
HALF-DAY KINDERGARTEN
STUDENTS

Dates	Full-Day Mean	Half-Day Mean
9/4-11/2	13.69	17.24
11/5-1/25	19.94	27.80
1/28-3/28	24.48	24.14

Chi square was equal to 0.78 showing that there is no significant difference in the attendance pattern during a nine week period between full-day and half-day kindergarten students. However, it should be noted that there are more absences as the year progresses for both groups and that half-day students tend to have more absences than full-day students around the holidays.

Table XI reveals the total absences for the twenty-seven week period.

Half-day students show 10.8% absences for the twenty-seven week period as compared to 8.5% absences from the full-day students. It should be noted, however, that the number used was not constant throughout the year due to the changing kindergarten enrollments.

Therefore, this is only an indication that the total absenteeism for half-day is higher than for full-day kindergarten.

TABLE XI
1979/80 TOTAL ABSENCES OF
FULL-DAY AND HALF-DAY
KINDERGARTEN STUDENTS

Full-Day				Half-Day			
School	N	Mean	%	Random Sampling	N	Mean	%
1	56	2.50	4.5	1	52	9.54	18.3
2	73	7.62	10.4	2	41	4.09	10.0
3	38	2.02	5.3	3	68	4.85	7.1
4	62	6.51	10.5	4	38	2.98	7.8
Total	229	19.40	8.5	Total	199	21.47	10.8

TASK OBSERVATION ASSESSMENT
KINDERGARTEN STUDENT
RESPONSES OF FULL-DAY KINDERGARTEN STUDENTS

School _____

Boy _____

Girl _____

	a	b
a. Acceptable answer or performance		
b. Non acceptable answer or performance		
1. What color is this? (Red) _____	40	
2. Point to the letter that has a circle in it. (w b t l) _____	40	
3. If you saw your best friend standing on the playground crying, what would you do? _____	34	6
4. Stand on one foot as long as you can. Wait until I say go. (Acceptable if they stand for 8 seconds.) _____	31	9
5. Hop four times like a bunny. _____	26	14
6. If you had one cookie and two of your friends asked for it, what would you do? _____	24	16
7. I'm going to ask you to do three things. Do them exactly like I say. Pat your head, touch your nose, and turn around. _____	32	8
8. Draw a triangle for me. _____	39	1
9. Listen carefully and see if you can tell me the answer to this problem. Billy's mother had four cookies. Billy ate one and Susie ate one. How many cookies are left? _____	24	16
10. What does this word say? (bat) _____	3	37
If they can't tell you, ask the following: Can you tell me what each letter says? _____	12	28
Now can you tell me the word? _____	13	27

Child was friendly and confident 30. Child seemed shy and unsure 10.

TASK OBSERVATION ASSESSMENT
KINDERGARTEN STUDENT
RESPONSES OF HALF-DAY KINDERGARTEN STUDENTS
School _____

Boy _____ Girl _____		
a. Acceptable answer or performance	a	b
b. Non acceptable answer or performance		
1. What color is this? (Red) _____	40	0
2. Point to the letter that has a circle in it. (w b t l) _____	40	0
3. If you saw your best friend standing on the playground crying, what would you do? _____	31	9
4. Stand on one foot as long as you can. Wait until I say go. (Acceptable if they stand for 8 seconds.) _____	38	2
5. Hop four times like a bunny. _____	22	18
6. If you had one cookie and two of your friends asked for it, what would you do? _____	34	6
7. I'm going to ask you to do three things. Do them exactly like I say. Pat your head, touch your nose, and turn around. _____	30	10
8. Draw a triangle for me. _____	36	4
9. Listen carefully and see if you can tell me the answer to this problem. Billy's mother had four cookies. Billy ate one and Susie ate one. How many cookies are left? _____	26	14
10. What does this word say? (bat) _____	7	33
If they can't tell you, ask the following:		
Can you tell me what each letter says? _____	20	20
Now can you tell me the word? _____	13	27

Child was friendly and confident 37. Child seemed shy and unsure 3.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The full-day kindergarten pilot program began in January, 1979 in four schools: Glenwood, Stockwell, Tekoppel, and Thompkins. The factors that caused this interest included: more families where both parents were working full time, large numbers of children already acclimated to a full-day format, a national trend toward full-day kindergarten sessions in public and private schools, five-year-olds entering school better prepared due to many hours of television exposure, additional classroom space made available by a drop in enrollment and, most important, a desire to better prepare children for post kindergarten school experiences.

The purpose of the full-day kindergarten program was the same as the half-day program. Both programs were designed to help children grow in cognitive, psychomotor, affective, and linguistic skills. The cognitive and psychomotor skills were taught by direct instruction: for example, by teaching letters of the alphabet using a workbook, while the affective and linguistic skills were taught by informal instruction: for example, in interest centers such as a playhouse or in show and tell situations. The difference in full-day and half-day programs was the time involved. In the full-day program there was more time for elaboration as each skill was developed. Further, as children succeed in mastering skills, the additional time allowed students to move forward toward more formal instruction.

The objectives of this study involving full-day kindergarten children in the four pilot schools and a random sampling of half-day

kindergarten children in schools that continued the half-day program during the year and a half pilot program were as follows:

- I. To determine the loss or gain of the cognitive growth in full-day kindergarten children during the pilot program
- II. To determine, using one evaluation instrument, a limited indication of the psychomotor, affective, and linguistic growth of full-day kindergarten children
- III. To develop and present a realistic program for the implementation of a full-day kindergarten session
- IV. To test the null hypothesis that there is no difference in the total growth between the children who participated in the full-day kindergarten program and those who attended the half-day program using the following: California Achievement Tests, Boehm Tests of Basic Concepts, Gates MacGinitie Reading Tests, questionnaires, opinionnaires, interviews, task observations, and attendance records.

The experimental group was automatically determined by full-day kindergarten students who attended the four pilot schools: Glenwood, Stockwell, Tekoppel, and Thompkins. The control group was selected by using a random sampling of half-day kindergarten students from schools that continued the half-day kindergarten session.

In order to have the same socio-economic background represented in the full day kindergarten results and in the half-day kindergarten results, the random sampling of half-day kindergarten students for the control group was selected from schools that matched the socio-economic areas of the four full-day pilot schools. Care was also taken to obtain results from both morning and afternoon half-day kindergarten sessions.

The 1978/79 experimental group contained students who attended

half-day kindergarten for the first semester and full-day kindergarten for the second semester. The 1978/79 control group contained students who attended half-day kindergarten for two semesters. Both groups continued first grade in the 1979/80 school year.

The 1979/80 experimental group consisted of students who were enrolled in the four pilot schools and attended full-day kindergarten for the whole year. The control group contained students who attended half-day kindergarten for the entire year.

The California Achievement Tests were administered to the 1978/79 experimental and control groups during the same week in April of 1979 by the kindergarten teachers. The same procedure was repeated during the same week in March of 1980 for the 1979/80 kindergarten experimental and control groups.

Results show that except in one case all subtests and combined scores were significantly higher for full-day kindergarten students when compared to the subtests and combined scores of half-day kindergarten students. In 1979 the mean score for pre-reading skills for full-day students was 106.09 compared to a 96.50 mean score for half-day kindergarten students. This makes the achievement level of full-day students 9.59 higher than half-day students. In 1980 the full-day mean score in pre-reading was 102.38 compared to 95.70 for half-day students, making full-day 6.68 higher than half-day. The mathematics results show the full-day mean score higher by 4.22 for 1979 and higher by 2.99 for 1980.

The Boehm Tests of Basic Concepts were only given to full-day kindergarten students. Form A was given as a pre-test in September of 1979 and Form B was administered in April of 1980 as a post-test. Scores obtained from Evansville's full-day kindergarten students were compared to the average socio-economic norms established for the Boehm Tests.

When the mean score of the pre-test (36.25) for the Evansville full-day kindergarten students was compared to the norm group, average socio-economic status, it had a percentile rank of 65. This is compared to a 31.80 mean score for the norm group which has a percentile rank of 50. At the onset then, we find the full-day kindergarten students in Evansville ranking 15 percent higher. This might be due to Head Start and nursery school experiences. The mean score of full-day kindergarten students on the post-test (43.07) had a percentile rank of 85, using mid-year norms, while the norm group had a mean score of (35.30) which had a percentile rank of 45. This makes the full-day kindergarten students ranking 40% higher than the norm group.

Follow-up data on the 1978/1979 full-day and half-day kindergarten students were obtained from the Gates MacGinitie Reading Tests that were administered in April to all first grade students. To make these results more valid only full-day and half-day students who had attended kindergarten and first grade in the same school were used.

Follow-up results show that the kindergarten students who attended full-day in 1978/1979 scored significantly higher than the kindergarten students who attended half-day with the statistical t test showing $t = 6.12$ and $p < .005$.

The total mean score for full-day was 64.19 compared to a total mean score of 50.41 for half-day students. In comparing the mean scores for vocabulary (38.24, 27.17) and for comprehension (25.95, 23.24) it was determined that the kindergarten

full-day group was 11.07 higher in vocabulary and 2.71 higher in comprehension.

The opinions of full-day and half-day kindergarten parents concerning their child's total learning in kindergarten were obtained from a ten item questionnaire. Parent preference and their reasons for selecting full-day or half-day kindergarten were also solicited on this questionnaire.

In question one full-day and half-day kindergarten parents responded the same with 82% saying their child had learned a great deal. However, in questions two through five pertaining to a child's cognitive, psychomotor, affective, and linguistic growth, a larger number of full-day parents indicated that their child had attained at a higher level than half-day parents did. In question six no learning experience had a clear majority, but learning how to control the body in more coordinated ways was definitely selected as the least important learning experience for kindergarten children.

Question seven shows that 31% of the full-day parents find it necessary for someone to care for their child all day while 66% do not. Half-day parents indicate that 38% need someone to care for their child all day while 60% do not.

Of the 131 full-day parents who returned the questionnaire, 120 (91.6%) indicated in question eight that, if they had a choice, they would prefer full-day kindergarten instead of half-day kindergarten for their child. Five parents indicated a preference for the half-day session, two parents preferred half-day during the first semester and full-day during the second semester, and four parents chose not to answer this question.

Of the 119 half-day parents who returned the questionnaire,

sixty-three (52.9%) stated they would select full-day kindergarten if they had the choice, fifty-two indicated they would select half-day, and four chose not to answer the question.

Question nine in the parent questionnaire produced the following answers. Of the 131 full-day kindergarten parents who returned the questionnaire, 39% were pleased and didn't suggest any improvements; 16% thought that a smaller class size would improve their child's kindergarten experience with the majority of these comments coming from the two pilot schools with the largest classroom enrollment; 25% gave various answers that did not combine into like groups; and 20% left the question unanswered.

Of the 119 half-day parents who answered the questionnaire, 39% were pleased and didn't suggest any improvements, 16% thought a longer kindergarten day would improve their child's kindergarten experience, 22% gave various answers that did not combine into like groups, and 26% left the question unanswered.

Question number ten did not produce any significant homogeneous groupings for either group except that many parents were extremely pleased with the teaching ability and the love and concern for young children that the kindergarten teachers had.

Two opinionnaires were created to obtain teacher opinions toward full-day kindergarten. One was developed for full-day kindergarten teachers and the other for first grade teachers who had received full-day kindergarten students. The Likert Method and Scale was used in developing and analyzing the results which show that full-day kindergarten teachers have a favorable attitude to the full-day kindergarten concept while first grade teachers are undecided.

The full-day kindergarten teachers were interviewed as to the

advantages and disadvantages of the full-day program. The disadvantages included the large class size and an increased work load for teachers in planning for the work of aides, in the preparation of lessons for a full-day rather than a half-day, and in administrative tasks such as collecting money for lunch.

The advantages included children receiving a good noon meal; more time for formal instruction in reading and other basic subjects; more time for music, art, and physical education; time to reinforce skills; more time to work on an individual basis with children; more time for adult and children relationships; more time to participate in primary programs of the school; and children can come to and go from school with older brothers and sisters.

Data organized from the Kindergarten Task Observation Assessment were used to obtain a limited indication of the psychomotor, affective, and linguistic growth, as well as the cognitive growth of full-day and half-day kindergarten students. This was developed to use first hand observations as an evaluation technique. The statistical chi square test of independence was used to see if there were any significant differences in the task performance of full-day and half-day kindergarten students.

After the chi square test of independence was performed for each task to see if there were significant differences between the task performances, a significant difference was found in only one task where half-day students performed at a higher level than full-day students.

To determine if full-day was more tiring than half-day kindergarten, causing more illness or more absences toward the end of the week, attendance by the day was compiled for the 1979/80 experimental and control groups. To learn if there were any significant differences

in the attendance pattern of both groups the chi square test of independence was used.

Chi square was equal to 0.05 which indicates there is no significant difference between the attendance pattern by days of full-day and half-day kindergarten students. Both groups had more absences on Monday and Friday with fewer on Wednesday.

Half-day students show 10.8% absences for the twenty-seven week period as compared to 8.5% absences from the full-day students. It should be noted, however, that the number used was not constant throughout the year due to the changing kindergarten enrollments.

Conclusions

The following conclusions are based on the findings of the study using the results from the California Achievement Tests, Boehm Tests of Basic Concepts, Gates MacGinitie Reading Tests, questionnaires, opinionnaires, interviews, task observations, and attendance records.

1. Full-day kindergarten students are significantly higher in the California Achievement Test when compared to half-day students. These areas include listening for information, letter forms, alphabet skills, letter sounds, visual discrimination, sound matching, visual and auditory discrimination, pre-reading, and mathematics.
2. Full-day kindergarten students score significantly higher than anticipated on the Boehm Tests of Basic Concepts.
3. Children in first grade who attended full-day kindergarten score significantly higher in the Gates MacGinitie Reading Tests in April than children who attended half-day kindergarten.
4. Most parents of children who attended full-day kindergarten,

- 91.6%, prefer a full-day program to a half-day program.
5. Of the parents of the children who attended schools where half-day kindergartens were available, 52.9% indicated a preference for the full-day program.
 6. Parents of children who attended both full-day and half-day are pleased with the kindergarten program in Evansville.
 7. Full-day kindergarten teachers have a favorable attitude about full-day kindergarten while first grade teachers are undecided.
 8. The disadvantages of the program are the large class sizes and increased responsibility and work for the kindergarten teachers.
 9. The main advantage of the program is the increased time which allows for more formal and informal learning, more enrichment in music, art, and physical education, more individual help, better participation in primary activities such as assemblies, and social interaction with adults and children.
 10. No difference was found between full-day and half-day children on the Kindergarten Task Observation Assessment.

Recommendations

The study has shown that the full-day program has parent support and acceptance, that the children benefit from the full-day program, and that schools can provide the supportive services, such as school lunch, which are necessary for a full-day program.

The related research, visitation to other cities, and discussions with the professional staff indicate that more than one kindergarten class

should be available when the number of children gets too large. While it is true that the Corporation once had 180 children enrolled in one kindergarten (Stringtown School in 1968), the changing needs of education makes it necessary to work with more reasonable class loads if we are to properly prepare children for post kindergarten schooling.

The full-day kindergarten program has shown that it can be effective despite large class sizes which occurred at Tekoppel and Thompkins Schools. The smaller number of children at Stockwell School and the two kindergartens at Glenwood School allowed the teachers to provide more attention for each child enrolled in their schools.

The following staffing formula is recommended:

<u>Students</u>	<u>Teachers</u>	<u>Aides</u>
0-25	1	.5
26-35	1	1
36-40	1	1.5
41-50	2	1
51-70	2	2
71-80	2	3

Any extension of the program should take into account the feelings of parents. Parents should be given the option of having their children attend half-day at a school that also offers a full-day program or the option of having their children attend an adjacent school which offers only a half-day program. Schools selected for full-day programs should be notified at least by January prior to implementation of the full-day program the following September in order to provide training for the staff and to allow time to provide appropriate materials and facilities.

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APPENDIX A

KINDERGARTEN QUESTIONNAIRE FOR PARENTS

Name of School

Please fill out the following questionnaire regarding your son or daughter who is now in kindergarten. PLEASE RETURN COMPLETE QUESTIONNAIRE WITHIN TWO DAYS.

1. How much do you believe your child has learned in kindergarten?
☐ My child has learned a great deal.
☐ My child has learned an average amount.
☐ My child has learned little.
☐ My child has learned nothing.
2. In the last year, how has your child's ability to work and play with other children changed?
☐ My child has greatly improved.
☐ My child has improved a little.
☐ My child has not changed much.
☐ My child has regressed.
3. In the last year, what changes have you noticed in the relationships between you and your child?
☐ Our relationship is much more pleasant.
☐ Our relationship is a little better.
☐ Our relationship has not changed much.
☐ Our relationship is more difficult.
4. During the last year, how would you describe the change in your child's confidence in his or her ability?
☐ My child gained much more confidence.
☐ My child gained a little more confidence.
☐ My child's confidence did not change much.
☐ My child's confidence decreased.
5. How much of your child's total development in the last year would you say is from experiences in kindergarten?
☐ Most
☐ Some
☐ Little
☐ None
6. What learning experiences do you think are the most important for children in kindergarten? Rank the items from 1 to 4 with 1 being your first choice.
☐ Learning about the alphabet, words, numbers.
☐ Learning how to get along with other children.

- ☐ Learning how to control and express feelings positively.
☐ Learning how to control the body in more coordinated ways.

7. Is it necessary for you to have someone care for your child all day because of other demands on your time?

- ☐ Yes
☐ No

8. If you had a choice, which would you prefer for your child?

- ☐ Full-Day Kindergarten
☐ Half-Day Kindergarten

State reasons why you believe the full-day or the half-day kindergarten would be better.

9. How could your child's kindergarten experiences be improved?

10. What would you most want to remain unchanged about your child's kindergarten experience?

KINDERGARTEN OPINIONNAIRE
FULL-DAY KINDERGARTEN TEACHERS

The following statements represent opinions, and your agreement or disagreement will be determined on the basis of your particular convictions. Please check your position on the scale for each statement.

- a. I strongly agree
- b. I agree
- c. I am undecided
- d. I disagree
- e. I strongly disagree

	a	b	c	d	e
1. I do not like the concept of full-day kindergarten.					
2. If my classroom size is 40 or below, I would rather teach in a full-day kindergarten classroom than in a half-day kindergarten classroom.					
3. If the classroom size is 50, I would prefer a half-day session with 25 in each session rather than teach 50 in a full-day program.					
4. Full-day kindergarten students become more independent than half-day kindergarten students.					
5. Full-day kindergarten students had difficulty handling the lunch hours.					
6. Full-day kindergarten students retain more than the half-day kindergarten students because there is time to reinforce the concepts that are taught.					
7. The majority of my kindergarten students were too tired in the afternoon to benefit from instruction.					
8. The immature kindergarten child has more difficulties adjusting to a full-day situation than the mature kindergarten child.					
9. Full-day kindergarten is better for the child because the students can participate in the total school program.					
10. Half-day kindergarten students are able to master the same readiness skills as the full-day kindergarten students.					

	a	b	c	d	e
11. Full-day kindergarten students have more opportunities to socialize with their peer group. _____					
12. Full-day kindergarten students have a better knowledge of letter names and letter sounds than half-day kindergarten students. _____					
13. The attention spen and listening skills of half-day students is better than full-day students. _____					
14. Full-day kindergarten should be continued and expanded in the Evansville-Vanderburgh School Corporation if classroom size is realistic. _____					

KINDERGARTEN OPINIONNAIRE - FIRST GRADE TEACHERS

The following statements represent opinions, and your agreement or disagreement will be determined on the basis of your particular convictions. Please check your position on the scale for each statement.

- a. I strongly agree
- b. I agree
- c. I am undecided
- d. I disagree
- e. I strongly disagree

	a	b	c	d	e
1. I would rather have students enter my first grade classroom with a full-day kindergarten experience rather than a half-day kindergarten experience.					
2. Half-day kindergarten students were better prepared for first grade work habits than full-day kindergarten students.					
3. Full-day kindergarten students function more independently than half-day kindergarten students.					
4. The children who have attended full-day kindergarten have a better mastery of readiness skills than those who have attended half-day kindergarten.					
5. Half-day kindergarten students are more excited about coming to first grade than full-day kindergarten students.					
6. Full-day kindergarten students seem to be bored with first grade material.					
7. Full-day kindergarten children seem to socialize better within their peer group than half-day kindergarten students.					
8. I do not see any difference in the abilities of half-day kindergarten students and full-day kindergarten students.					
9. I feel that a half-day kindergarten experience is better for five and six-year-olds than a full-day experience.					

	a	b	c	d	e
10. Full-day kindergarten students have a better knowledge of letter names and letter sounds than half-day kindergarten students. _____					
11. Fine motor skills and handwriting readiness is further developed in the full-day kindergarten student than in the half-day kindergarten student. _____					
12. Full-day kindergarten students do not have better gross motor coordination than half-day kindergarten students. _____					
13. Full-day kindergarten students can follow directions better than half-day kindergarten students. _____					
14. The attention span of half-day kindergarten students is longer than the attention span of full-day kindergarten students. _____					

TASK OBSERVATION ASSESSMENT
KINDERGARTEN STUDENT

School _____

Boy _____ Girl _____

	a	b
a. Acceptable answer or performance		
b. Non acceptable answer or performance		
1. What color is this? (Red) _____		
2. Point to the letter that has a circle in it. (w b t l) _____		
3. If you saw your best friend standing on the playground crying, what would you do? _____		
4. Stand on one foot as long as you can. Wait until I say go. (Acceptable if they stand for 8 seconds.) _____		
5. Hop four times like a bunny. _____		
6. If you had one cookie and two of your friends asked for it, what would you do? _____		
7. I'm going to ask you to do three things. Do them exactly like I say. Pat your head, touch your nose, and turn around. _____		
8. Draw a triangle for me. _____		
9. Listen carefully and see if you can tell me the answer to this problem. Billy's mother had four cookies. Billy ate one and Susie ate one. How many cookies are left? _____		
10. What does this word say? (bat) _____		
If they can't tell you, ask the following: Can you tell me what each letter says? _____		
Now can you tell me the word? _____		

Child was friendly and confident _____ Child seemed shy and unsure _____

APPENDIX B

TABLE XII
1980 GATES MACGINITIE SCORES FOR THE 1978/79
FULL-DAY KINDERGARTEN STUDENTS

School		N	ΣX	ΣX^2	$\bar{X}$	σ^2
1	Vocabulary	27	996	37770	36.89	39.56
	Comprehension		802	24856	29.70	39.75
	Total		1798	123508	66.59	145.17
1	Vocabulary	29	1195	50499	41.21	44.38
	Comprehension		703	18313	24.24	45.40
	Total		1898	128912	65.45	167.54
3	Vocabulary	13	321	9377	24.69	120.90
	Comprehension		296	7806	22.77	88.96
	Total		617	34135	47.46	404.27
4	Vocabulary	27	1159	50723	42.93	37.38
	Comprehension		690	18970	25.56	51.41
	Total		1849	130805	68.48	160.87
Exper.						
Total	Vocabulary	96	3671	148369	38.24	84.12
	Comprehension		2491	69945	25.95	55.88
	Total		6162	417360	64.19	229.86

N = Number

ΣX = Sum of raw scores

ΣX^2 = Sum of raw scores squares

$\bar{X}$ = Mean score

σ^2 = Variance

TABLE XIII

1980 GATES MACGINITIE SCORES FOR THE 1978/79
HALF-DAY KINDERGARTEN STUDENTS

School		N	ΣX	ΣX^2	$\bar{X}$	σ^2
1	Vocabulary	27	1129	48083	41.81	33.62
	Comprehension		711	14769	26.33	40.23
	Total		1840	128940	68.15	136.44
2	Vocabulary	42	807	18717	19.21	78.32
	Comprehension		731	13651	17.40	71.42
	Total		1538	67442	36.62	271.27
3	Vocabulary	26	601	16051	23.12	86.35
	Comprehension		540	12998	20.77	71.30
	Total		1141	57507	43.88	297.39
4	Vocabulary	53	1484	46166	28.00	88.73
	Comprehension		1457	45437	27.49	103.52
	Total		2941	180221	55.49	327.37
Control Total	Vocabulary	148	4021	129017	27.17	134.50
	Comprehension		3439	93855	23.24	94.86
	Total		7460	434110	50.41	395.14

N = Number
 ΣX = Sum of raw scores
 ΣX^2 = Sum of raw scores squares
 $\bar{X}$ = Mean score
 σ^2 = Variance